JAMAICA.

ANNUAL REPORT

OF THE

# MEDICAL DEPARTMENT

FOR THE

YEAR ENDED 31st DECEMBER, 1937.

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# MEDICAL DEPARTMENT.

## Report for the year ended 31st December, 1937.

## PART I.

## I—ADMINISTRATION.

### A. Personnel.

1. Director of Medical Services.
2. Assistant Director of Medical Services.
3. Staff.

### B. Organization.

1. *Medical—*
    - (a) *Special Institutions:*
        - (1) Kingston Public Hospital.
        - (2) Jubilee Maternity Hospital.
        - (3) Mental Hospital.
        - (4) Lepers' Home.
        - (5) Tuberculosis Hospital.
    - (b) *Provincial Medical Service—*
        - (1) 43 Medical Districts—
            - 19 with hospitals.
            - 24 without hospitals.
        - (2) 70 Dispensaries, and a varying number of outstations.
    - (c) *Staff:*
        - 1 Senior Medical Officer, Kingston Public Hospital.
        - 2 Resident Medical Officers do.
        - 5 Medical Officers do.
        - 2 Casualty Officers . . do.
        - 2 Acting Medical Officers do.
        - 1 Radiologist do.
        - 1 Dental Surgeon (part time) do.
        - 1 Medical Superintendent, Mental Hospital
        - 2 Senior Medical Officers do.
        - 2 Medical Officers do.
        - 1 Resident Medical Officer, Jubilee Maternity Hospital.
        - 43 Medical Officers in districts.
        - 1 additional Medical Officer, Montego Bay.
        - Matrons, Nurses and Probationers, Dispensers in Hospitals and Homes.
        - Clerical and Subordinate Staffs.

2. *Public Health*—
   - (a) *Divisions*:
     - (1) Laboratory, Bacteriological and Pathological.
     - (2) Communicable Disease Control:
       - (a) Mobile Units (Yaws and other Communicable Diseases)
       - (b) Tuberculosis Dispensary and Clinic.
       - (c) Venereal Diseases Clinics.
       - (d) Quarantine Service.
       - (e) Malaria Control.
     - (3) Infant and School Hygiene.
   - (b) *Staff*
     - (1) 1 Assistant Director of Medical Services (Health).
     - (2) 1 Bacteriologist and Pathologist.
     - (3) 1 Assistant Bacteriologist and Pathologist.
     - (4) 17 Medical Officers (Health).
     - (5) 1 Port Medical Officer.
     - (6) 6 Public Health Nurses.
     - (7) 28 Sanitary Inspectors.
     - (8) 2 Dispensers, Yaws units. (Mobile Health Units).
     - (9) X-Ray Assistants, Field Workers, Laboratory Assistants.
     - (10) Clerical and Subordinate Staffs.

## C.—NEW APPOINTMENTS, TRANSFERS, ETC.

*New Appointments*—

Dr. H. E. C. Aslett, Medical Superintendent, Mental Hospital.
Dr. S. E. Ferreira, Medical Officer, Venereal Diseases Clinics.
Dr. C. B. Phillips, Acting Medical Officer, Lower St. Andrew.
Dr. A. E. Owen-Tomlinson, Medical Officer, St. Ann's Bay.
Dr. V. S. Magnus, Relief Medical Officer, Public Hospital, Kingston.
Dr. C. C. Wedderburn do. do. do.
Mr. J. F. Monteith, Dispenser, Linstead Public General Hospital.

*Transfers*—

Mr. S. F. Hearne, from Chief Accountant, Island Medical Office, to the General Post Office.
Mr. A. L. Hylton, from the Treasury to Chief Accountant, Island Medical Office.
Dr. G. N. Overton, from Cayman Island to Medical Officer, Adelphi.
Dr. O. C. Pitter, from Balaclava to Hagley Gap.
Dr. H. L. Henriques, from Public Hospital, Kingston, to Medical Officer, Mandeville.
Dr. K. C. Royes, from Supernumerary Medical Officer, Public Hospital, Kingston, to Port Medical Officer, Port Royal.
Dr. P. C. Murray, from Port Medical Officer, Port Royal, to Medical Officer, Public Hospital, Kingston.
Dr. H. M. Johnston, from Medical Officer (Health), St. Catherine, to Malaria Officer.
Dr. F. W. Aris, from Malaria Officer, to Medical Officer (Health), St. Catherine.
Dr. L. L. Freeman, from Medical Officer, Public Hospital, Kingston to Medical Officer, Spanish Town.
Dr. I. S. Parboosingh, from Medical Officer, Spanish Town, to Medical Officer, Public Hospital, Kingston.
Dr. K. G. W. James, from Medical Officer, Ulster Spring, to Medical Officer, Sav.-la-Mar, (consequent on leave to Dr. L. R. Levy.)
Dr. A. A. Peat, from Medical Officer (Health), St. Ann, to Medical Officer (Health), Trelawny and St. James, (consequent on leave to Dr. W. J. Branday.)
Dr. T. B. Sinclair, Medical Officer (Health), Clarendon, to Medical Officer (Health), St. Ann.
Dr. J. I. Rerrie, Medical Officer Yaws Commission (Mobile Health Unit), to Medical Officer (Health) Portland, (consequent on leave to Dr. L. M. Watson.)

*Resignations*—

Dr. H. E. C. Aslett, Medical Superintendent, Mental Hospital.
Dr. M. S. Hendricks, Supernumerary Medical Officer.

*Retirements*—

Dr. J. J. Cameron, Senior Medical Officer, Mental Hospital.
Dr. E. V. Mellad, Medical Officer, Croft's Hill.

*Promotions*—

Mr. C. C. A. Robinson, from Chief Dispenser, Public Hospital, Kingston, to Medical Storekeeper.
Mr. E. D. Bryce, from 2nd Assistant Storekeeper, to Chief Dispenser, Public Hospital, Kingston.
Dr. L. H. Evelyn, from Supernumerary Medical Officer, to Medical Officer, Public Hospital, Kingston.
Dr. C. B. Phillips, from Supernumerary Medical Officer, to Medical Officer, Lower St. Andrew.
Dr. O. C. Pitter, from Supernumerary Medical Officer, to Medical Officer, Hagley Gap.
Dr. K. C. Royes, from Supernumerary Medical Officer, to Port Medical Officer, Port Royal.

*Deaths*—

Dr. R. W. Dale Hewson, Medical Superintendent, Mental Hospital.
Miss E. McNeil Smith, Matron, Jubilee Maternity Hospital.

*On Leave*—

Dr. L. R. Levy, Medical Officer.
Dr. W. J. Branday }
Dr. L. M. Watson } Medical Officers (Health).

*In addition*—

Dr. C. H. Tomlinson, Acting Medical Officer, Public Hospital, Kingston, acted as Medical Officer, Turks Island, from August to November.

### (D) FINANCIAL.

*Expenditure:*

| | £ | s. | d. |
|---|---|---|---|
| Head 21. Medical—General Administration— | | | |
| Personal Emoluments .. .. .. | 25,304 | 16 | 10 |
| Other Charges .. .. .. | 4,330 | 19 | 5 |
| Head 21. Part II Medical—Health Service— | | | |
| Personal Emoluments .. .. .. | 26,921 | 13 | 1 |
| Other Charges .. .. .. .. | 15,281 | 17 | 7 |
| Head 22. Medical—Hospitals and Lepers' Home— | | | |
| Personal Emoluments .. .. .. | 42,755 | 0 | 1 |
| Other Charges .. .. .. | 52,447 | 13 | 3 |
| Head 23. Lunatic Asylum— | | | |
| Personal Emoluments .. .. .. | 22,906 | 19 | 7 |
| Other Charges .. .. .. .. | 21,287 | 10 | 1 |
| Total Expenditure .. | 211,236 | 9 | 11 |
| Total Expenditure of the whole Colony .. | £2,243,238 | 13 | 9½ |
| Percentage of Expenditure on Medical Department | | | 9.4% |
| Revenue from Fees, etc. .. .. .. | £10,814 | 12 | 8 |

## II.—PUBLIC HEALTH AND GENERAL REMARKS.

### PUBLIC HEALTH.

The report records a year of steady progress and development.

It is a matter for satisfaction that the year under report should present the lowest death rate on record in the Island—15.3 per 1,000. It is also satisfactory to note that a marked reduction in the number of cases of Enteric Fever has also occurred this year, 781 cases in 1937, as compared with 1,278 cases in 1936. Our satisfaction in this regard, however, must be tempered by the fact that there is considerable scope for further reduction, which depends largely upon the progress of improvement of public water supplies throughout the Island, and also to an important extent, on the education of the public mind to realise the dangers of the unsafe natural water supplies, on which the majority of the people still depend.

The progress in treatment of Yaws is will maintained. The work of the Yaws Commission in which the Government and the Rockefeller Foundation co-operated, ceased in April. Yaws is now dealt with by the Government by a general scheme, in which the Health Officers of parishes survey their areas, and collect cases for treatment at special centres by Medical Officers of Districts. In addition, two Mobile Health Units are maintained by the Government for work in heavily infested Yaws areas.

The use of Public Health Nurses has increased during the year, and the report shows the lines on which this development is taking place. It is encouraging to find that many of the Parochial Boards are showing considerable interest in the matter, and a desire to co-operate with the Government in the provision of Public Health Nurses and Maternity and Child Welfare Services.

Good progress is also being made in Anti-Tuberculosis work. Tuberculosis Wards have been built in two district hospitals. Three others are in course of erection, and the new Tuberculosis Clinic in Kingston was completed at the end of the year.

The work of the Government Laboratory continues to increase with the development of its use for free public health facilities.

Laboratory Examinations increased from 57,950 in 1936 to 71,701 specimens examined in 1937. The existing staff is finding it extremely difficult to cope with the work, and further increase is impossible without increase of staff. It is hardly necessary to stress its importance as the most essential unit in the Public Health organization of the Island.

The overcrowding of hospitals and the need for more accommodation is dealt with in the report.

It is satisfactory to note, that the Out-Door Dispensary Service continues to meet the increasing demands of the public for these facilities.

The department has been much occupied during the year with the problem of housing, which developed with the establishment of a Central Housing Authority with powers under a Slum Clearance Law to deal with the insanitary areas. Schemes have been sanctioned by the Government for improvement of the greater portion of Smith Village and development of a part of Trench Pen as a Model Township. Investigation respecting conditions in certain parishes were also carried out, and data were obtained for preparation of a Preliminary Report on Slum Clearance in Montego Bay.

## General Remarks.

The following table shows the comparison of the more important groups of diseases of in-patients in the hospitals during 1936 and 1937.

| Diseases. | 1936. Cases. | 1936. Deaths. | 1937. Cases. | 1937. Deaths. |
|---|---|---|---|---|
| Diseases of the— | | | | |
| Nervous System . . . . | 624 | 89 | 738 | 104 |
| Eye . . . . . . | 648 | . . | 752 | 2 |
| Circulatory System . . . . | 1,040 | 192 | 873 | 214 |
| Respiratory System . . . . | 1,568 | 245 | 1,758 | 279 |
| Digestive System . . . . | 4,374 | 242 | 6,400 | 259 |
| Genito Urinary System (non-Venereal) | 3,748 | 248 | 4,110 | 221 |
| External Causes . . . . | 4,861 | 59 | 5,410 | 115 |

*Communicable Diseases.*—These are dealt with in detail by the Assistant Director of Medical Services (Health) in the following section on Sanitation.

T. J. Hallinan,
Director of Medical Services.

## III.—SANITATION.

### 1. Administration.

(a) *Personnel.*—Dr. T. B. Sinclair, Acting Medical Officer (Health) Clarendon, was transferred to St. Ann.

Dr. H. M. Johnston, Medical Officer (Health), St. Catherine, was transferred to the post of Malaria Officer.

Dr. F. W. Aris, Malaria Officer, was transferred as Medical Officer (Health), St. Catherine.

Dr. S. Ferriera returned from fellowship leave and was appointed Medical Officer, Venereal Diseases Clinics.

Dr. A. A. Peat, Medical Officer (Health), St. Ann, was transferred as Medical Officer (Health), Trelawny and St. James, consequent on leave to Dr. W. J. Branday.

Dr. J. I. Rerrie, Medical Officer (Health), was transferred from the Yaws unit in Portland to the post of Medical Officer (Health), Portland, consequent on leave to Dr. L. M. Watson.

1. *Parochial Staff.*—Table 1 shows the staff employed by the Local Boards of Health.

Table I.

| Parish. | Sanitary Inspectors. | | | Nurses. | | Clerks. | Dental Surgeons. | Others. | Vet. |
|---|---|---|---|---|---|---|---|---|---|
| | Chief. | Whole-time. | Part-time. | Whole-time. | Part-time. | Whole-time. | Part-time. | Whole-time. | Part-time. |
| Kingston . . . . | 1 | 14 | . . | 1 | 3 | 5 | 2 | . . | 1 |
| St. Andrew . . | 1 | 15 | . . | 1 | 8 | 2 | 1 | . . | 1 |
| St. Thomas . . | 1 (1) | 5 (5) | 1 (1) | . . | 5 | 1 | . . | 2 | . . |
| Portland . . | . . | 2 (2) | 3 (3) | 3 | . . | 1 | 1 | 1 | . . |
| St. Mary . . | 1 (1) | 9 (9) | . . | . . | 5 | 2 | . . | 2 | . . |
| St. Ann . . | . . | 9 (8) | . . | 1 | 2 | 1 | . . | . . | . . |
| Trelawny . . | . . | 4 (4) | . . | . . | 5 | 1 | . . | 1 | . . |
| St. James . . | 1 | 8 (8) | . . | . . | 6 | . . | . . | . . | . . |
| Hanover . . | . . | 4 (4) | . . | . . | 4 | 1 | . . | 1 | . . |
| Westmoreland . . | 1 (1) | 4 (4) | 1 (1) | 1 | 3 | 1 | . . | 2 | . . |
| St. Elizabeth . . | 1 (1) | 4 (4) | . . | . . | 5 | . . | . . | . . | . . |
| Manchester . . | 1 (1) | 5 (4) | . . | 1 | 6 | 1 | . . | . . | . . |
| Clarendon . . | 1 (1) | 9 (5) | . . | 7 | . . | 1 | . . | . . | . . |
| St. Catherine . . | . . | 6 (5) | 5 | 2 | 1 | 2 | 1 | 2 | . . |
| Port Royal . . | . . | . . | 1 | . . | . . | . . | . . | . . | . . |

There are 12 Medical Officers (Health) in charge of parishes (excluding Port Royal), the officer in St. Thomas being the only Part-time Officer. The parishes of St. James and Trelawny are combined under one Medical Officer (Health), and so are Hanover and Westmoreland.

The figures in brackets shew the number of persons who hold a Certificate from the Sanitary Inspecors' School or the Royal Sanitary Institute.

2. *Staff of Central Board of Health.*—Table II shows the staff employed by the Central Board of Health.

Table II.

| | Medical Officers. | Senior Sanitary Inspectors. | Sanitary Inspectors. | Public Health Nurses. | Dispensers. |
|---|---|---|---|---|---|
| Mobile Health Units . . | 2 | 3 | 15 | . . | 2 |
| Malaria . . . . . . | 1 | . . | 6 | . . | . . |
| Tuberculosis . . . . | 3 | . . | . . | . . | . . |
| Quarantine Board . . . . | 1 | . . | 1 | . . | . . |
| Communicable Diseases, School Hygiene, etc. . . | 1 (School Hygiene) | . . | . . | 6 | . . |

3. *School Dental Clinics.*—The following parishes maintained School Dental Clinics during the year: Kingston, St. Andrew, Port Royal, Portland, St. Mary, St. Ann, Trelawny, St. James, Hanover, Clarendon, St. Catherine.

The Central Board of Health contributed 25% of the cost in all these parishes, except Kingston, St. Andrew, St. Mary.

(b) *Finance.*—Table III shows approximately, the expenditure of the various parishes for Public Health.

## Table III.

| Administration. | Kingston & St. Andrew. | St. Thomas. | Portland. | St. Mary | St. Ann. | Trelawny. |  | St. James. | Hanover. |  | Westmoreland. | St. Elizabeth. | Manchester. | Clarendon. | St. Catherine. | Port Royal. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | £ | £ | £ | £ | £ | £ |  | £ | £ |  | £ | £ | £ | £ | £ | £ |
| H. O. Salaries * | † { 800<br>563 | 300 | 755 | 754 | 600 |  | 725 | † |  | 800 | a | 800 | 700 | 800 | 800 | 600 |
| T. A. * | 150 | .. | 150 | 150 | 150 |  | 200 | † |  | 200 | a | 150 | 150 | 150 | 150 | .. |
| S. I. Salaries | 4,451 | .. | 578 | 1,288 | 1,145 | 570 |  | 1,023 | 314 |  | 606 | 464 | 668 | 1,100 | 1,274 | .. |
| T. A. | 961 | .. | 56 | 273 | 189 | 146 |  | 241 | 82 |  | 165 | 180 | 219 | 150 | 495 | .. |
| Clerks | 498 | .. | 120 | 171 | .. | 140 |  | 88 | 52 |  | 79 | .. | 62 | 84 | 182 | .. |
| Messengers, etc. | 40 | .. | 21 | 26 | .. | 19 |  | .. | 15 |  | .. | 3 | 31 | 12 | 26 | .. |
| Total I | 7,463 | 300 | 1,680 | 2,662 | 2,084 | 875 | 925 | 1,352 | 463 | 1,000 | 850 | 1,597 | 1,830 | 2,296 | 2,927 | 600 |
| 2. Cleansing | 23,826 | .. | 843 | 1,778 | 562 | 324 |  | 1,629 | 266 |  | 704 | 224 | 428 | 365 | 1,505 | 140 |
| 3. I. D. Prevention | 286 | .. | 183 | 67 | 6 | .. |  | 181 | 30 |  | 16 | 9 | 4 | 15 | 135 | .. |
| 4. Cemetries | 1,987 | .. | 165 | 208 | 82 | 24 |  | .. | 28 |  | 100 | 14 | 83 | 8 | 178 | 10 |
| 5. Child Welfare | 1,642 | .. | 65 | 192 | 40 | 90 |  | 363 | 160 |  | 17 | 125 | 700 | 167 | 1031 | 14 |
| 6. Conservancy | 1,207 | .. | 12 | 167 | 19 | .. |  | 44 | 3 |  | 9 | 13 | 284 | 117 | .. | .. |
| 7. Drainage | 438 | .. | 203 | 264 | 286 | .. |  | 482 | 7 |  | 60 | 6 | .. | .. | 307 | .. |
| 8. Water Supply | 417 | .. | 445 | 251 | 1,284 | 43 |  | 219 | 299 |  | 295 | 88 | 4,174 | .. | 691 | 144 |
| 9. Miscellaneous | 2,130 | .. | 349 | 825 | 325 | 35 |  | 698 | 340 |  | 23 | 35 | 357 | 90 | 290 | 94 |
| Total II | 31,933 | .. | 2,265 | 3,752 | 2,604 | 516 |  | 3,616 | 1,133 |  | 1,224 | 514 | 6,030 | 762 | 4,137 | 402 |
| Grand Total | 39,396 | 300 | 3,945 | 6,414 | 4,688 | 1,391 | 925 | 4,968 | 1,596 | 1,000 | 2,074 | 2,111 | 7,860 | 3,058 | 7,064 | 1,002 |

* Salaries and Travelling Allowances of Medical Officers of Health are paid by Central Government.

† Duties of Trelawny and St. James performed by one Medical Officer (Health)

a Duties of Hanover and Westmoreland performed by one Medical Officer (Health)

‡ Assistant Medical Officer (Health).

The Central Government spent the following amounts on matters affecting the Public Health:—

| | | | | £ | s. | d. |
|---|---|---|---|---|---|---|
| Quarantine | | | | 1,358 | 7 | 7 |
| Tuberculosis | | | | 1,571 | 2 | 4 |
| Bacteriological Branch | | | | 3,466 | 5 | 2 |
| Epidemic Measures | | | | 1,439 | 2 | 11 |
| Health Propaganda | | | | 184 | 9 | 1 |
| School Dental Clinics | | | | 546 | 3 | 5 |
| Vaccination Fees | | | | 700 | 8 | 6 |
| Drugs | | | | 4,080 | 6 | 5 |
| Training School for Sanitary Isnpectors | | | | 14 | 0 | 0 |
| Yaws Control | | | | 1,023 | 1 | 1 |
| Venereal Diseases Clinics | | | | 5,889 | 4 | 10 |
| Treatment of Tuberculosis | | | | 1,984 | 19 | 0 |
| Child Welfare Association | | | | 1,000 | 0 | 0 |
| | | | | 23,257 | 10 | 4 |
| Less Reimbursements | | | | | | |
| Quarantine | £1,907 | 12 | 0 | | | |
| Bacteriological Branch | 34 | 10 | 0 | | | |
| Venereal Diseases Clinics | 28 | 0 | 0 | 1,970 | 2 | 0 |
| Net cost to General Revenue | | | | £21,287 | 8 | 4 |

The Rockefeller Foundation spent £3,372 5s. 8d. on health measures during the year, as follows:—

| | £ | s. | d. |
|---|---|---|---|
| Central Office | 459 | 2 | 10 |
| Tuberculosis Studies | 2,119 | 7 | 6 |
| Yaws Commission (to end of March) | 434 | 9 | 1 |
| Travel Grants | 78 | 19 | 9 |
| Ford Car donated to Medical Department | 89 | 5 | 3 |
| Expenses in connection with visit of Malaria Specialist | 26 | 19 | 0 |
| Research work of Tuberculosis Specialist | 164 | 2 | 3 |
| | £3,372 | 5 | 8 |

(c) *Legal.*—The following Laws affecting Public Health were enacted in 1937:—
10.—The Slum Clearance Law, 1937.
22.—The Public Health Amendment Law, 1937.
25.—The Public Water Supply Amendment Law, 1937.
34.—The Venereal Disease Law, 1937.
44.—The Sale of Drugs and Poisons Amendment Law, 1937.

## VITAL STATISTICS.

*Population.*—The estimated population on 31st December, 1937, was 1,152,528, distributed by parishes as shown in Table V.

*Birth Rate.*—35,352 births were registered, giving a rate of 32.07 per 1,000 population.

*Death Rate.*—The crude death rate fell from 17.4 in 1936 to 15.3 in 1937.

*Infant Mortality.*—The Island death rates under 1 year and under 5 years were respectively 119 and 168 per 1,000 live births as compared with 130 and 183 in 1936.

The percentage of total deaths registered with medical certificates continues to improve as shown by the following Table.

Table IV.—Medical Certification of Deaths.

| Year. | Total Deaths. | Per Cent. medically Certified. |
|---|---|---|
| 1932 | 18,265 | 35.8 |
| 1933 | 20,969 | 37.2 |
| 1934 | 18,731 | 39.4 |
| 1935 | 19,706 | 41.2 |
| 1936 | 19,629 | 42.6 |
| 1937 | 17,481 | 44.8 |

Table V.—Number of Deaths and Causes by Parishes for 1937.

| Parish. | Estimated Population on 31st Dec., 1937. | Pulmonary Tuberculosis. | Typhoid Fever. | Malaria Fever. | Black Water Fever. | Undefined Fever. | Diarrhœa and Enteritis. | Chronic Nephritis. | Cancer and other Malignant Tumours. | Infantile Convulsions (under 5 years of age) | Congenital Debility. | Pneumonia. | Other ill-defined and unspecified Causes. | All other Causes. | Total Deaths. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kingston .. | 78,357 | 118 | 47 | 38 | .. | 8 | 74 | 49 | 80 | 10 | 105 | 173 | 8 | 1,137 | 1,847 |
| Port Royal .. | 1,107 | 2 | .. | .. | .. | .. | 4 | .. | .. | .. | .. | 2 | .. | 6 | 14 |
| St. Andrew .. | 62,831 | 233 | 1 | 20 | .. | 62 | 45 | 72 | 38 | 64 | 134 | 39 | 73 | 771 | 1,552 |
| St. Thomas .. | 51,309 | 24 | 8 | 48 | 1 | 116 | 31 | 39 | 14 | 92 | 50 | 40 | 75 | 402 | 940 |
| Portland .. | 61,607 | 50 | 9 | 52 | .. | 146 | 7 | 20 | 24 | 10 | 107 | 20 | 59 | 441 | 945 |
| St. Mary .. | 90,766 | 63 | 22 | 52 | 1 | 224 | 21 | 52 | 21 | 58 | 83 | 25 | 82 | 570 | 1,274 |
| St. Ann .. | 97,179 | 82 | 6 | 30 | .. | 71 | 48 | 34 | 22 | 82 | 119 | 27 | 76 | 568 | 1,160 |
| Trelawny .. | 45,474 | 23 | 3 | 14 | .. | 48 | 42 | 19 | 10 | 54 | 82 | 30 | 39 | 342 | 706 |
| St. James .. | 56,065 | 50 | 15 | 17 | .. | 135 | 32 | 58 | 31 | 105 | 69 | 51 | 62 | 438 | 1,063 |
| Hanover .. | 50,518 | 30 | 4 | 17 | .. | 55 | 30 | 23 | 16 | 139 | 43 | 29 | 31 | 365 | 782 |
| Westmoreland .. | 89,927 | 41 | 9 | 42 | 1 | 170 | 25 | 37 | 25 | 110 | 118 | 50 | 41 | 555 | 1,224 |
| St. Elizabeth .. | 106,424 | 71 | 7 | 42 | .. | 157 | 36 | 74 | 25 | 249 | 113 | 39 | 42 | 591 | 1,446 |
| Manchester .. | 86,837 | 49 | 9 | 12 | .. | 84 | 15 | 38 | 25 | 63 | 93 | 48 | 61 | 575 | 1,072 |
| Clarendon .. | 112,002 | 75 | 21 | 49 | 1 | 259 | 26 | 50 | 32 | 103 | 126 | 37 | 160 | 662 | 1,601 |
| St. Catherine .. | 120,602 | 108 | 24 | 71 | 2 | 299 | 39 | 63 | 24 | 116 | 173 | 43 | 132 | 761 | 1,855 |
| Add excess Arrivals over Departures from Census Day 1921 to 31.12.37 .. | 41,523 | | | | | | | | | | | | | | |
| Whole Island .. | 1,152,528 | 1,019 | 185 | 504 | 6 | 1,834 | 470 | 628 | 387 | 1,255 | 1,415 | 653 | 941 | 8,184 | 17,481 |

## COMMUNICABLE AND INFECTIOUS DISEASES.

Table VI shows the notification of cases of Infectious Diseases for the year, by months and by parishes.

### TABLE VI.

| | Typhoid. | Dysentery. | Pulmonary Tuberculosis. | Leprosy | Chicken Pox. | Diphtheria. | Scarlet Fever. | Erysipelas. | Cerebro-spinal Meningitis. | Polomyelitis. | Puerperal Fever. | Encephalitis Lethargica. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| By Months— | | | | | | | | | | | | |
| January .. | 52 | 11 | 107 | .. | 10 | 3 | 3 | 2 | .. | .. | 2 | .. |
| February .. | 54 | 13 | 108 | 5 | 19 | 2 | 6 | .. | 1 | .. | 1 | 1 |
| March .. | 68 | 18 | 127 | .. | 24 | 2 | 1 | 1 | .. | .. | 2 | .. |
| April .. | 73 | 10 | 130 | 2 | 38 | .. | 2 | 3 | .. | .. | 2 | .. |
| May .. | 40 | 16 | 102 | 1 | 49 | 5 | .. | 2 | .. | .. | 2 | .. |
| June .. | 73 | 11 | 117 | 2 | 63 | 2 | .. | 1 | 1 | .. | 3 | .. |
| July .. | 94 | 3 | 111 | 3 | 16 | 3 | 1 | 2 | .. | .. | .. | .. |
| August .. | 85 | 7 | 110 | 3 | 34 | 4 | 1 | 1 | 1 | 1 | 1 | 1 |
| September .. | 59 | 9 | 116 | 2 | 20 | 1 | 1 | 1 | .. | .. | 1 | .. |
| October .. | 72 | 11 | 107 | 5 | 26 | 3 | 1 | 1 | 1 | .. | 5 | 1 |
| November .. | 61 | 11 | 84 | 1 | 5 | 3 | 4 | 3 | 1 | .. | 1 | .. |
| December .. | 50 | 12 | 92 | 1 | 28 | 1 | 2 | 4 | 1 | 1 | 2 | .. |
| Total .. | 781 | *132 | 1,311 | 25 | 332 | 29 | 22 | 21 | 6 | 2 | 22 | 3 |
| By Parishes— | | | | | | | | | | | | |
| Kingston .. | 91 | 77 | 370 | 3 | 40 | 17 | 7 | 3 | 3 | .. | 3 | .. |
| St. Andrew .. | 75 | 17 | 112 | .. | 72 | 2 | 4 | .. | .. | .. | 1 | .. |
| St. Thomas .. | 34 | .. | 45 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. |
| Portland .. | 31 | 4 | 52 | .. | 3 | .. | .. | .. | .. | 1 | 1 | .. |
| St. Mary .. | 94 | 5 | 75 | .. | 70 | .. | .. | .. | .. | .. | 2 | .. |
| St. Ann .. | 21 | 5 | 135 | 3 | 38 | 6 | 4 | 6 | 1 | .. | 3 | .. |
| Trelawny .. | 15 | 1 | 30 | 4 | 9 | .. | 1 | .. | .. | .. | .. | .. |
| St. James .. | 51 | 6 | 80 | 1 | 20 | 1 | 3 | 2 | 1 | .. | 2 | .. |
| Hanover .. | 14 | 3 | 41 | 1 | 4 | .. | .. | .. | .. | .. | .. | .. |
| Westmoreland | 31 | .. | 47 | .. | 9 | 1 | .. | 1 | .. | .. | 1 | 1 |
| St. Elizabeth .. | 44 | 1 | 61 | .. | 41 | .. | 1 | .. | .. | .. | .. | .. |
| Manchester .. | 27 | 3 | 54 | 2 | 3 | .. | 2 | 3 | .. | .. | 2 | .. |
| Clarendon .. | 123 | 2 | 81 | 9 | 5 | .. | .. | 4 | 1 | .. | 2 | .. |
| St. Catherine | 130 | 8 | 127 | 1 | 17 | 2 | .. | 2 | .. | 1 | 5 | 2 |
| Port Royal .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total .. | 781 | 132 | 1,311 | 25 | 332 | 29 | 22 | 21 | 6 | 2 | 22 | 3 |

| | |
|---|---|
| *Amoebic .. | 93 |
| Bacillary .. | 4 |
| Unclassified .. | 35 |

*Enteric Fevers.*—781 cases and 185 deaths were recorded as compared with an average annual number of 1,124 cases and 252 deaths for the 5 year period ended December 1937. This remarkable decrease was most marked in the Corporate Area. The parish of St. Catherine recorded 130 cases as compared with 110 in 1936, but 73 of the cases occurred in the Troja epidemic, and even so the parish recorded 24 deaths as compared with 31 in the previous year..

Table VII shows the incidence of Typhoid during the past 5 years in the Corporate Area of Kingston and St. Andrew.

### Table VII.

| | Cases. | Deaths. | Estimated Population. | Death rate per 100,000. |
|---|---|---|---|---|
| 1933 .. | 386 | 77 | 133,405 | 57.7 |
| 1934 .. | 434 | 85 | 135,380 | 62.7 |
| 1935 .. | 328 | 67 | 137,341 | 48.7 |
| 1936 .. | 337 | 62 | 139,172 | 40.9 |
| 1937 .. | 166 | 48 | 141,188 | 33.9 |

The decline in the death rate since 1934 is continuous and marked.

A water borne epidemic with 73 cases continuing from June to September occurred in a wide rural area of St. Catherine including the districts of Facey, Troja, Riversdale, Harewood and smaller settlements, following the course of the Rio Doro. The earliest cases occurred in the district of Facey at a high elevation and infection spread and later downwards along the river. The districts in the Riversdale area are well populated and well watered by numerous springs which empty into the Rio Doro. This river constitutes the only water supply for nearly all the people in the districts through which it passes and is heavily polluted by refuse, washings from cultivated lands, and is used for washing of clothes and bathing of people and livestock.

Two cases were reported in May, followed by 23 in June, 32 in July, 12 in August, and 4 in September. 46 of the 73 cases appeared to be primary and 27 due to contact with previous cases.

Every effort was made to reduce pollution of the river by notices, pamphlets, patrols, cleaning of refuse from the river banks, public lectures, etc. Systematic search of the area for new cases was maintained, and all cases hospitalised promptly; over 3,000 people were given anti-Typhoid inoculation. All but 7 of the 73 cases were hospitalised, and 7 deaths occurred.

In the Corporate Area of Kingston and St. Andrew 83% of the notified cases were cared for in the Kingston Hospital while elsewhere 64% were hospitalised.

32,454 anti-typhoid inoculations were given as compared with 37,947 in 1936, special attention being given to protection of school children as this group provides 30% to 35% of the notified cases, and can be reached with less difficulty than the rest of the population.

### WATER SUPPLIES AND LATRINES.

In the annual report for 1936, survey data were submitted on the sanitary conditions of water supplies and latrines for the Island generally. This survey has been of value to focus attention on the main problems of permanent control with respect to typhoid fever and other important gastro intestinal infections. Further investigation on water supplies indicate that approximately only 30% of the total propulation have regular access to established public Water Supplies, grouped as follows:—

| Type of Supplies. | Population supplied. |
|---|---|
| Supplies delivered by pipe as | |
| (i) House to house distribution or by standpipe | 227,000 |
| (ii) "protected" spring supplies .. .. | 76,000 |
| (iii) Wells .. .. .. | 11,000 |
| (iv) Rain water tanks .. .. .. | 39,000 |
| | 353,000 |

The rest of the population obtain their supplies from generally very unsafe sources and rarely adopt the simplest precautions for safety.

Of 22 house to house supplies for the main towns of the Island, only 6 at present are provided with purification plants as follows

The late supply covering Kingston, Lower St. Andrew, and Port Royal, and the supplies for Port Antonio, Montego Bay, Spanish Town, Stony Hill and Linstead. But in the case of only 2 of these 6 supplies—namely, the Kingston and Stony Hill Supplies, can it be stated that a constantly safe standard of bacteriological purity is maintained. 21 of these supplies are from sources such as rivers, and springs in limestone, subject to to heavy human and animal pollution—the town of Mandeville alone deriving its supply by rain water catchment arranged in a sanitary manner which may be regarded as safe.

During the past 2 years, however, very marked progress has been made in the direction of improving the several main supplies in quantity and quality, and the large expenditures approved for this purpose during 1936 and 1937 constitute an epoch-making record for such undertakings. In the Kingston supply, construction was begun near the end of the year on a new purification plant at Constant Spring, embodying the latest methods of rapid sand filtration and chloramine treatment, with a capacity of 8 million gallons per day, while improvements were carried out on the Hermitage Dam and pipe line which supplies raw river water to the Constant Spring plant.

A plant similar in type to the new Constant Spring plant, was completed for the Stony Hill supply, with a capacity of 200 thousand gallons per day with covered pure water storage reservoir with a capacity of 170 thousand gallons.

It is interesting to note that the per capita consumption on the Kingston and St. Andrew supply is 93¼ gallons per day.

Construction work was well advanced during the year for augmenting and purifying the supplies of the towns of Montego Bay, May Pen, Chapelton, Lucea, while plans are being prepared for dealing with Morant Bay, Buff Bay and a number of smaller townships and settlements.

13,643 new latrines were completed during the year as compared with 12,442 in 1936, progress being most marked in the poorly equipped northern districts of the parish of Clarendon where assistance was given by the Central Board of Health, because of continued high endemic typhoid during the past three years.

Considerable extensions to the Sewerage System of Kingston were carried out, 1,930 yards of mains being laid in the Rae Town area to cover 166 premises. In connection with Housing Schemes, plans were completed for sewerage of Smith Village and Spanish Town Road, an overcrowded slum area of western Kingston with a population of opproximately 5,000.

Work was also started on the erection of a modern Sewerage Disposal Plant at Kingston Pen.

## *Tuberculosis.*

Table VIII shows the annual Island case rates, and death rates, from Pulmonary Tuberculosis for the past 10 years.

Table VIII.

Pulmonary Tuberculosis—Case rates and Death rates per 100,000 population.

| Year. | Case rate. | Death. |
|---|---|---|
| 1928 | 96.6 | 128.9 |
| 1929 | 102.2 | 126.3 |
| 1930 | 107.3 | 128.6 |
| 1931 | 127.7 | 140.1 |
| 1932 | 123.2 | 118.0 |
| 1933 | 114.8 | 110.1 |
| 1934 | 127.7 | 101.4 |
| 1935 | 125.5 | 98.5 |
| 1936 | 127.6 | 95.1 |
| 1937 | 113.7 | 88.4 |

During the year, 1,311 cases and 1,019 deaths were recorded, 46% of the cases being reported in the three adjacent parishes of Kingston, St. Andrew and St. Catherine. Although the quality of the information on the occurrence of cases and deaths from Pulmonary Tuberculosis has been greatly improved in recent years and although the recorded annual death rate continues to decline, which would give the impression that there is a progressive fall in the incidence of the disease, investigations carried out during 1937 brought to light the disturbing fact that an extraordinarily high proportion of children of school age (under 14 years), both city and rural, show a positive Tuberculin reaction. Thus, of 600 children tested in Clarendon at rural schools, over 90% were tuberculin positive while at Milk River School 97% were positive. Children in schools in the suburbs of Kingston also showed over 90% positive.

The main feature of the control policy which have been kept in view for some years are—

(a) *Increasing the bed accommodation.*—This accommodation is essentially of two kinds—beds in special wards in Government hospitals to be used primarily for early cases which are suitable for active surgical treatment with prospects of early arrest of the disease, and beds in association with Parochial Poor Law Institutions, primarily for advanced cases which require institutional care over prolonged periods both as a measure for prevention of spread and because of the economic inability of the patient's family to care for the case at home.

The amount of surgical work on Tuberculosis continued to increase during the year. The report of the Tuberculosis Officer will be found under Section IX. Progress during the year on this feature is also indicated under Section V.

(b) *Dispensary and Diagnostic facilities.*—The work of the Kingston Tuberculosis Dispensary established in 1927, illustrates the effectiveness of this service. During 1937, this Dispensary notified 89% of the 482 cases notified in the Corporate Area of Kingston and St. Andrew, made a physical examination of 3,664 new patients, had 8,550 attendances of old patients, gave 3,660 pneumothorax refills, carried out 2,808 miscroscopic examinations of sputum, and took 4,384 X-ray pictures.

Outside of the Corporate Area, the Health Officers in all parishes except St. Elizabeth and St. Thomas, maintain Tuberculosis Dispensary services, these being most developed in the parish of Manchester where regular monthly clinics are held at several centres.

The dispensaries with the largest attendances outside of Kingston are those at Montego Bay, Spanish Town, and Port Maria. A total of 8,154 attendances were recorded at the clinics by Health Officers outside Kingston. Many Health Officers carry out sputum examinations in their own Departments, the Health Officer for St. Mary recording 504.

A most valuable feature of the diagnostic service is the Lady Stubbs X-ray Motor Unit. This Unit visited every parish except St. Thomas during the year, travelled 3,763 miles and took 3,459 X-ray pictures, the patients being collected at various centres.

(c) *Home Supervision.*—Even when the full programme for a central hospital of 220 beds and a hospital ward in each parish is completed, the very great majority of known cases will have to be cared for in their homes, and home supervision remains the most important activity for Parochial Health Staffs on tuberculosis.

The Kingston, Montego Bay and Spanish Town dispensaries are provided with visiting nurses.

In Kingston, 4,630 visits were paid by the 4 dispensary nurses in addition to their indoor duties. Elsewhere home supervision has had to be maintained by Sanitary Inspectors and although many of them are performing this duty with useful results, it is a nurse's job. Accordingly, a Public Health Nursing Service has been initiated and during 1937 the Service was started with 6 nurses—further information on which will be found below.

(d) *Co-operation with the Anti-Tuberculosis League.*— During the year the League continued its assistance in close co-operation with Parochial Health Officers in such ways as providing cost of transportation of cases to dispensaries, helping needy cases with food and clothing, and an "aftercare"committee arranges suitable employment for a number of arrested cases.

## MALARIA.

The report of the Malaria Officer will be found in Section X.

The rainfall during the greater part of the year was below average, particularly in the Spring, which favoured a reduction in the general incidence of malaria which had reached an unusually high peak in 1936. A total of 504 deaths were recorded, as compared with 672 in 1936 and 568 in 1935.

In the Corporate Area of Kingston and St. Andrew where the disease had risen to epidemic proportion in 1936, favourable weather conditions aided the programme of mosquito control which was put into effect, and there has been marked reduction in the number of new cases, though the endemic level in this area now remains far too high. Thus there were 661 admissions with 29 deaths in the Kingston Public Hospital during 1937 as compared with 1,359 cases and 42 deaths in the previous year.

The disease rose to epidemic proportions with a number of deaths during September in the coastal areas of the parish of Portland involving the townships of St. Margaret's Bay, Hope Bay and the valley of the Rio Grande River, due to sluggishness and pooling of streams following several months of low rainfall. The measures undertaken were adequate, however, to bring the outbreak under control.

The general programme of malaria control was again extended during the year, particularly in the Corporate Area of Kingston and St. Andrew, and parts of St. Catherine, Portland and Clarendon.

The year was marked by the more generous provision of funds for "permanent" control measures—i.e., drainage and filling, than has ever been hitherto attempted, and the necessary co-ordination between the Health and Engineering Authorities has been arranged. In former years such limited funds as were available have been sufficient only to make use of "temporary" measures—i.e., the use of larvicides, under the direction of Health Officers. While continuous extensions of these latter measures have been of the greatest value in restraining malaria in areas of formerly very high endemicity, substantial expenditures for drainage and filling were not provided for the purpose of eradicating major breeding places, although demonstrations of drainage and filling on a small scale had been made by the Health Authorities at such places as Little London, Falmouth, Kingston Pen, and Golden Grove in St. Thomas.

It was therefore decided to apply these measures on a larger scale and funds have been allocated from Loan provisions to be expended on four schemes at Kingston Pen, Port Maria, Montego Bay, and Black River. The Kingston Pen Swamp with an area of approximately 191 acres, the largest scheme undertaken, had been almost entirely eradicated partly by special expenditure from Loan provisions and partly by systematic filling with city refuse, and adequate permanent drainage for the whole area has been provided for removing subsoil and storm water.

Good progress was also made in the establishment of permanent drainage for the swamp close to the town of Port Maria. The measures for dealing permanently with the swamps near Montego Bay have not been finally settled but, in the meanwhile, valuable results have been obtained with ditching and pumping by a private owner of a part of the swamp and carefully maintained use of larvicides over the remainder is sufficient to ensure safety from malaria.

The experience gained by these first undertakings on a comparatively large scale will be of value for further development as funds are available.

In the Corporate Area, effective drainage was provided at the Rock Spring swamp and partial drainage of the large Evans pond at Bull Bay.

Larvicidal measures were more thoroughly organised over the large swamps and irrigated banana lands extending for some miles to the west of Kingston with considerable reduction in the incidence of malaria over the previous two years, and investigations are being made in this area with a view to preparation of a drainage programme.

## YAWS.

Following the plan laid down in 1933, the special Yaws Treatment Units continued to operate in the areas of high endemicity while in the less heavily infected areas the permanent staffs maintained the census and treatment work.

The work of the Permanent Staffs on case finding for the past 3 years is summarised in the following table:—

Table IX.—Incidence of Yaws outside of areas of highest endemicity.

| Year. | Population. | Active cases found. | Rate of Active cases. |
|---|---|---|---|
| 1935 | 220,232 | 12,615 | 5.8% |
| 1936 | 448,288 | 15,456 | 3.5% |
| 1937 | 439,819 | 9,508 | 2.2% |

The cases set out in the above table are those showing external evidence of activity of the disease. A small number are included who give a history of recent infection (of less than 4 years duration) without clinical signs, as it is not uncommon to find some of these cases relapsing and becoming infectious.

In the main, the areas and population surveyed in 1937 include those previously surveyed in 1935 and 1936, and the findings are considered to be satisfactory evidence of steady decline in the occurrence of active yaws. This view is supported by the observations of teachers particularly in many areas who note the reduction among school children and the return to school of many children excluded because of the disease.

The two special Treatment Units working in the areas of high endemic yaws in the parishes of Portland, St. Mary, St. Thomas and Clarendon, found 6,062 cases showing active lesions in a population of 76,635 surveyed, an infection rate of 8% with active yaws as shown in the following table.

Table X.—Incidence of active Yaws in areas of high endemicity:—

| | Clarendon. | St. Thomas. | St. Mary. | Portland. | Total |
|---|---|---|---|---|---|
| Population Census | 22,384 | 19,123 | 14,902 | 20,226 | 76,635 |
| Number with Yaws lesions | 2,216 | 2,280 | 1,185 | 381 | 6,062 |
| Percentage with Yaws lesions | 9.5 | 11.9 | 8.0 | 1.8 | 8.0 |

The areas dealt with in St. Thomas were those not hitherto covered by a Treatment Unit and included the extreme eastern and extreme western sections of the parish. The much more heavily infected middle sections had been covered in 1934 with such marked reduction in active cases that the permanent staffs are maintaining fair control.

In Portland the work was limited also to the eastern sections of the parish not yet covered by a Treatment Unit and not originally by any means as heavily infected as the middle and western section of the parish.

The Yaws situation in this parish of formerly very high active infection, is very encouraging. In addition to the work of the Treatment Unit in the eastern sections, the permanent staff maintained good follow-up on the rest of the parish and the findings on periodic surveys in various districts up to 2½ years is set out in the following table:—

Table XI.—Portland—Active cases of Yaws found at half-yearly surveys.

| Area. | Original Infection. | Infection after | | | | |
|---|---|---|---|---|---|---|
| | | 6 mths. | 12 mths. | 18 mths. | 24 mths. | 30 mths. |
| Moore Town-Comfort Castle .. .. | 10.8 | 7.5 | .. | 2.4 | .. | .. |
| Fellowship .. .. | 11.6 | 3.5 | .. | 2.4 | .. | .. |
| Darley .. .. .. | 11.8 | 4.2 | 2.2 | .. | .. | .. |
| Swift River .. .. | 12.4 | .. | 2.6 | .. | 1.8 | .. |
| Craigmill .. .. | 10.1 | .. | 1.8 | .. | 2.6 | .. |
| Bybrook .. .. | 16.5 | .. | 3.1 | .. | 5.0 | 4.0 |
| Balcarres .. .. | 14.9 | .. | 3.2 | .. | 5.0 | 3.5 |

A total of 859 cases found in these and a few other districts were given an average of 5.3 treatments each, consiting almost entirely of Bismuth at weekly intervals.

In Clarendon, 1937 was the first year in which a Special Treatment Unit undertook work and the areas selected because of being among the most heavily infected in the parish, are situated in the upper valley of the Rio Minho extending from Chapelton to Grantham. The findings of the original surveys are worthy of recording for comparison in the future.

They are set out in the following table:—

Table XII.—Clarendon—Original Yaws Surveys 1937.

| District. | Population. | Percentage of total population Infected. | Percentage of population with active yaws. |
|---|---|---|---|
| Beckford Kraal .. | 4,353 | 48.8% | 15.5% |
| Crooked River .. | 3,454 | 23.4% | 10.7% |
| Grantham .. .. | 3,347 | 28.6% | 7.1% |
| Smithville .. .. | 2,546 | 29.6% | 9.0% |
| Whiteshop .. .. | 2,070 | 7.7% | 2.9% |
| James Hill .. .. | 2,887 | 11.3% | 2.6% |
| Arthurs Seat .. | 1,857 | 21.4% | 4.3% |
| Logie Green .. | 2,170 | 40.4% | 22.4% |
| Total | 22,684 | 27.8% | 9.8% |

Treatment was administered not only to the people showing active Yaws lesions, but also to those with latent yaws, i.e., with a history of less than 4 years duration but not showing external evidence of activity. The situation in the parish of St. Mary is not satisfactory.

There is indication that the ground gained by the Yaws Units, limited to the areas of highest infection only, will be lost unless thorough work is repeated from time to time by the Special Treatment Units, as the problem is far too large for local permanent staff to meet.

In addition to the systematic treatment enforced by the plan of organised follow-up of cases in their homes, treatment is available at all hospitals and dispensaries. A total of 128,745 treatments were given to 30,611 cases throughout the Island.

## LEPROSY.

25 cases were notified during the year; 9 of them from the parish of Clarendon and 4 from Trelawny. At the end of the year there were 245 known lepers in the Island, 165 of them being in the Lepers' Home. The corresponding figures for 1936 were 232 and 169.

The report of the Medical Officer in charge of the Lepers' Home will be found in Section V (F).

The marked incidence of leprosy in Lower Clarendon is probably associated with the large East Indian population, and the Health Officer states that in six out of ten cases under his observation a definite history of contact was obtained.

## VENEREAL DISEASES.

Records of treatment of Venereal Diseases during 1937 are as follows:—

| | Admissions | | Outdoor | |
|---|---|---|---|---|
| | Syphilis. | Gonococcal Infections. | Syphilis. | Gonococcal Infections. |
| Kingston Public Hospital | 416 | 385 | 1,154 | |
| District Hospitals | 2,055 | 1,190 | 9,017 | 3,974 |
| Kingston Venereal Diseases Clinics | .. | .. | 4,381 | 6,227 |
| Montego Bay Venereal Diseases Clinic | .. | .. | 1,223 | 1,397 |
| Port Antonio Venereal Diseases Clinic | .. | .. | 707 | 543 |

These figures for the Special Clinics represent the number of new cases dealt with during 1937. The Montego Bay Clinic began work on 19th July 1937, and the Port Antonio Clinic on 1st October, 1937. With regard to the figures for hospitals, it is not possible to state how many of the cases are new and the admissions are in most instances recorded among the out-patient numbers prior to admission.

The Kingston Clinic was transferred in newly constructed buildings in a district of the city reputed for its association with prostitutes and considerable success has been achieved in inducing these women to attend.

The attendance of new cases at the three special clinics has entirely exceeded anticipation, and it is evident that substantial increase in the staffs, particularly of the Kingston Clinics, must be provided if adequate attention is to be given to the cases.

Dr. Whitbourne, Schools Medical Officer, carried out a survey in 1936 on Syphilis in School Children in Kingston. Of the 1,103 children examined, 43 gave positive Wassermann or Eagle reactions. As the Kahn reaction was not performed on each case, the results cannot be recorded, but they were almost identical. There was a definite history of Yaws in 13 of the 43 positives, thus reducing the number of possible cases of Congenital Syphilis to 30, or 2.7%. One-third of the infected children showed teeth of a Hutchinsonian type, but other stigmata were rare.

## FOOD SUPPLIES.

5,840 visits of inspection were paid to dairies and milk shops and steady improvement has been made in the production and handling of milk from a sanitary standpoint. This is particularly true of the Corporate Area of Kingston and St. Andrew where the daily sales of milk are approximately 8,062 quarts. Bacteriological examinations of samples in this area bear out the reports of Sanitary Inspectors but even the best dairies show frequent lapses from fair bacteriological standards. There is an increasing use of pasteurised milk but the operations of the plants is not yet as efficient as it should be.

No particular progress was made during the year in meat supervision as the existing Laws are inadequate to effect better inspection than at present.

Sanitary control for the slaughter of animals and the sale of meat, are adequately provided for the urban and sub-urban areas of Kingston, and arrangements have been made for modernising the buildings and equipment of the Kingston Slaughter House. In this Slaughter House during the year, the following animals were slaughtered:—Cattle, 12,238; Sheep, 956; Goats, 10,333; Pigs, 11,531; Turtle, 232. Spanish Town and Falmouth are the only other towns in which adequate sanitary control was exercised over slaughter. A Slaughter House was completed at Montego Bay, and preparations were under way for this provision at Mandeville and Port Antonio.

## MATERNITY AND CHILD WELFARE.

Brief information was given in the 1936 report as to the existing provisions for parochial maternity Service and attention was called to its ineffectiveness. There are approximately 35,000 births recorded annually, but about 50 part-time nurses employed by Parochial Boards delivered about only 1,300 cases per annum, while outside of Kingston there is no provision for ante-natal clinics. Taking into account deliveries undertaken by Medical Practitioners and Midwives in private practice (mainly in larger towns) it is considered that hardly more than 25 per cent. of the total deliveries are handled by qualified attendants. It is also noted that the infant mortality rate for 1937 (under 1 year), though by far the lowest on record, stands at 119 per 1,000 live births. The loss of infant life is highest during the first month of life but as nearly all of these occur in the absence of skilled medical nursing aid, the main causes can only be guessed.

The Corporate Area of Kingston and St. Andrew presents, however, a marked contrast to the rest of the Island. In this area, there are approximately 5,200 births per annum. About 1,500 are delivered in the Kingston Jubilee Maternity Hospital, possibly 200 in Registered Nursing Homes, and a considerable number by doctors and nurses at home. The Child Welfare Association recorded 5,389 attendances at well babies clinics, and 11,640 at sick babies clinics during the year, while the Jubilee Hospital and the Association together recorded 7,487 attendances at pre-natal clinics. These activities together with such other advantages as a safe water supply, special Venereal Clinics, Tuberculosis Dispensary Service, intensive anti-malarial work, etc., have combined to reduce the infant mortality rate of Kingston and its suburban areas considerably below that of the Island, generally, a reversal of the conditions which existed prior to 1929.

Outside of the Corporate Area promising efforts are being made to increase the number of skilled attendances at births in parishes where a Public Health Nurse has been provided. In the parishes of Manchester and Clarendon, the parochial maternity midwives were placed during 1937 under the control of the Health Officer and one duty of the Public Health Nurse is to follow up the work of the midwives, and the Health Officers have made a start on pre-natal and infant clinics.

In Clarendon, as a result, the Parochial midwives delivered 165 cases in the last five months of the year as compared with 125 cases in the preceding 19 months, and also carried out a considerable amount of pre-natal work and follow-up of infants. It is interesting to note that of 190 births attended by the nurses, 25 were still births, nearly all macerated. During the year the Health Officer obtained records of 12 maternal deaths from eclampsia, 5 from labour, 3 from sepsis and 3 from other maternal complications of pregnancy.

## DISEASES OF SCHOOL CHILDREN.

The Corporate Area of Kingston and St. Andrew is the only Local Authority provided with a School Medical Service.

The School Medical Officer in this area states that in 20 daily Elementary Schools examined during 1936 and 1937, the nutritional status of from 20 per cent. to 55 per cent. of over 8,000 children in various schools is unsatisfactory.

Health Officers in charge of other parishes carried out preliminary surveys on groups of school children with particular reference to their state of nutrition. The nutritional state of 6,830 children from schools scattered all over the Island was classified as follows:—

59 per cent. normal and excellent, and
41 per cent. subnormal.

Defective vision was observed in 15 per cent. and judging by the results of careful studies of defective vision in the children of the Corporate Area, it is probable that in the great majority of cases, an important underlying cause of poor vision is lack of vitamins. There is an indication also that eye strain due to incorrect illumination in unsuitable buildings may be of some importance.

## HOUSING.

The Slum Clearance Bill was presented at the 1937 Spring Session of the Legislative Council, and the Central Housing Authority was appointed under the provisions of the Slum Clearance Law, Law 10 of 1937.

An Improvement Scheme, embracing the greater portion of Smith Village and development of a portion of Trench Pen property, as a model township, was submitted by the Housing Authority as a First Scheme for Slum Clearance in the Corporate Area, the estimated cost of which is £48,400—to be met from the sum of £100,000 provided for a Housing Scheme under the Development Loan.

The Scheme provides for the cost of construction by private enterprise, to be financed by loans from Building Societies, on special terms, and it is confidently expected that the arrangements will contribute towards improving the housing standard generally.

Details of the operation of the Central Housing Authority are contained in a separate report which has been furnished by this Body.

Notwithstanding the increased cost of building materials, there has been much activity in the construction of residences in suburban areas of Kingston and expansion in various areas is proceeding along satisfactory lines.

In the parishes, the housing conditions call for much improvement and it is hoped that the functions of the Housing Authority will soon embrace the principal towns, which are urgently in need of improvement. The activities of private enterprise, notably in Montego Bay, have done much towards development of high class sub-urban settlements.

The improvement of Estate Barracks is receiving the attention of the Department and, in many instances, delapidated ranges are being replaced with model accommodations. The programme of Rose Hall Estate in St. James, is deserving of special mention.

## WORK OF THE MOBILE SANITARY STAFF OF THE CENTRAL BOARD OF HEALTH.

A staff of 3 Senior Sanitary Inspectors, 2 Dispensers and 28 Sanitary Inspectors is provided to assist Local Boards of Health in various health measures, including Health Education, Latrine Construction, treatment for worm infections, and control of Typhoid Fever, Tuberculosis and Yaws.

During the year, one Senior Sanitary Inspector and one Sanitary Inspector were assigned to the Kingston and St. Andrew Corporation and devoted most of their time to organization of the malaria contol programme.

Sanitary Inspectors continued to be in full time charge of defined areas for malaria control with the following centres:—Annotto Bay, Golden Grove, Montego Bay, Sav.-la-Mar, Little London, Black River and Lower St. Catherine. The Central Board of Health also provided a foreman for supervision at Falmouth. A number of them each under the direction of a Senior Sanitary Inspector, assisted the Local Boards of Westmoreland, Hanover and Clarendon mainly in latrine construction and yaws control.

The remainder of the staff is arranged as two mobile yaws treatment units each consisting of a medical officer, a dispenser, and four or five sanitary inspectors. These units work in areas of moderately high or heavy infection.

*Yaws Control.*—In the Lambs River area 488 cases were brought to treatment centres and received 2,070 injections. One of the yaws treatment units continued its activities of the previous year in the parish of St. Thomas for the first half of the year, then spent two months in St. Mary and the remainder of the year in Portland. This unit administered 25,018 injections to 5,878 cases found in a population of 54,000.

In St. Mary the districts dealt with, namely, Belfield, Rock River, Brainerd, Castleton, Clonmel, Richmond, are districts which in former years showed a very high infection rate, as many as 35 per cent. of the people in some of these requiring treatment. A treatment unit of the Yaws Commission had carried out very thorough treatment and follow-up work in the area, between 1933 and 1935, and since then some follow-up treatment was maintained.

During the course of the work in 1937 the mobile unit found that during 1935 and 1937 the infection rate of active cases, which had been greatly reduced in the 1933-35 campaign, had risen considerably. This rise was composed of as much of imported cases into the area as of relapses of old cases, and to a far less degree, of secondary cases developing in the area.

The experience in this heavily infected parish made it clear that effective control cannot be established without provision of special staff such as a mobile treatment unit.

The other Mobile Yaws Unit spent the year in the parish of Clarendon and administered 13,820 injections to 2,964 cases in a population of 23,000. The following areas in the parish were covered: Beckford Kraal, Crooked River, Grantham, Smithville, Whiteshop, James Hill, Arthur's Seat, Logie Green. Owing to the exigencies of the service, both units were without the services of a special medical officer for some months in the year and during these periods available staff was placed at the disposal of the Health Officer concerned, who used them to collect cases for the Medical Officers in charge of medical districts.

Among the activities carried out by the Mobile Staff, apart from the work of the Special Yaws Units described above, were the following:—

*Latrine Construction.*—In Westmoreland, 472 latrines were constructed in a population of about 2,400. In Upper Clarendon, an area of high endemic Typhoid, surveys carried out in 1936 showed that only 18% of the homes in a population of about 90,000 had sanitary latrines. Good progress was made during 1937 to correct these conditions and 3,213 new latrines were constructed and 1,564 repaired. 43 latrines were built free of cost for indigent persons at approximately £2 10s. 0d. each.

In the course of these activities special emphasis is placed on health education by means of illustrated lectures, home visits and pamphlets.

*Hookworm Treatment.*—In the Lambs River area of Westmoreland, 6,686 treatments were given to 2,266 persons, 67% of the population being found infected.

## RECOMMENDATIONS.

1. *Development of a Public Health Nursing Service.*—Two problems are sufficient to illustrate the need. One-fifth or less of all known cases of tuberculosis can be hospitalised at the same time. The remaining four-fifths must stay at home and even when a case is hospitalised the family has to be watched.

At least 75% of the 35,000 annual births are not delivered by skilled attendants. One of the most important reasons being ignorance of the expectant mother. This lack of skilled attendants also accounts largely for the high infant mortality rate.

2. *Development of the Maternity and Child Welfare Service.*—This depends on the development of the nursing service and provision of medical officers.
3. *Development of School Medical Services.*
4. *Provision by Government of Chief Sanitary Inspectors of superior type for sanitary areas* with the object of relieving Health Officers from purely sanitary work so that they may have time to devote to other activities such as maternal, infant and school hygiene. The tradition still hangs on that the Health Officer is hardly more than a glorified Sanitary Inspector.
5. *District Maternity Services* in association with the Jubilee Maternity Hospital and the Child Welfare Association to widen the experience of pupil midwives on home delivery and follow-up of infants.

J. M. HALL,
Assistant Director of Medical Services (Health.)

## IV.—PORT HEALTH WORK.

### *Report of the Quarantine Officer for the Year* 1937.

The total tonnage of vessels entering the ports of Kingston and Port Royal during 1937 was 4,852,627 as compared with 4,288,977 in 1936. For the island it was 5,162,301, compared with 4,520,788 for 1936. 1,423 vessels entered Kingston and Port Royal from overseas as compared with 1,338 in 1936. 287 Seaplanes arrived at Harbour Head compared with 272 in 1936.

Radio-pratique, and pratique facilities, are granted by arrangement with His Majesty's Government only to war vessels after the Commanding Officers have given by wireless the required information with regard to ports of call for the last two months and health on board.

The procedure was continued of making radio communication with tourist vessels approaching Jamaica so as to expedite quarantine and customs duties.

At the outports during 1937, the total number of vessels entering from overseas and boarded by the Boarding Medical Officers was 109, in 1936 it was 135.

In March a case of Bubonic Plague was removed from the S. S. Magister which had arrived from Brazil and the case was isolated in the Quarantine Station Hospital. All necessary precautions were taken. The case which was one of Pestis Minor recovered completely and was discharged from quarantine.

There is no semblance of attempts at rat-proofing of docks and warehouses in the vincinity of the docks by their owners. The Quarantine Board sometime ago tried to get Government to rat-proof No. 1 Pier, but the cost was prohibitive. A rat-proof pier with rat-proof buildings would certainly be an asset to Jamaica, and there should be one. It might be possible to persuade a private firm to undertake this project.

The number of vessels fumigated by Hydro-cyanic acid gas was 28.

Fumigation fees for 1937 was £128 12s. 6d. compared with £107 12s. 6d. for 1936.

Quarantine fees collected for the year from January 1st to December 31st was £1,907 12s. 0d. In 1936 the amount was £1,733 16s. 9d. For the period April 1st to December 31st in 1936, fees were £1,259 6s. 9d. For the same period in 1937 fees were £1,387 11s. 3d.

During the year several Venereal Diseases Clinics were instituted throughout the Island and full facilities now exist for thorough treatment of seamen and others under the Brussels Agreement.

Very necessary repairs to the Boarding Launch were carried out during the year to keep it in running order. Representation has been made to Government of the urgent necessity for a new launch to be procured, and for the present one in use to be utilized as a stand-by boat.

Table A.—Passenger Traffic during 1937.

| | No. of Passengers. | 1st Class. | 2nd Class. | 3rd Class. | Tourist. |
|---|---|---|---|---|---|
| Inwards | 40,067 | 7,491 | 212 | 2,225 | 30,139 |
| Aircraft | 1,076 | 646 | .. | .. | 430 |
| Total | 41,043 | 8,137 | 212 | 2,225 | 30,569 |

*Quarantine Station.*—Certain necessary repairs were carried out, and the station is always ready to receive cases.

*Air Traffic.*—No aerodrome for land planes has yet been erected but the matter is now being considered by Government.

The numerous problems of disease control associated with increasing aerial traffic are being watched carefully, and all available information thereon has been placed before the Board from time to time, and in particular, the measures being developed by the United States Public Health Service.

All members of the Quarantine Service performed their duties satisfactorily during the year and the helpful co-operation of other Government Departments and the Shipping Authorities is gratefully acknowledged.

John N. McIntosh,
Medical Officer of Health in charge of
Quarantine Service and Secretary of
the Quarantine Board.

## V.—HOSPITALS AND DISPENSARIES.

The following is a list of the Hospitals and Institutions of the Medical Department:

| | Official No. of Beds. |
|---|---|
| Public Hospital, Kingston | 380 |
| Victoria Lying-in Hospital | 100 |
| Mental Hospital | 2,089 |
| Public General Hospital, Morant Bay | 32 |
| Do. do. Hordley | 40 |
| Do. do. Port Antonio | 55 |
| Do. do. Buff Bay | 50 |
| Do. do. Annotto Bay | 60 |
| Do. do. Port Maria | 67 |
| Do. do. St. Ann's Bay | 42 |
| Do. do. Cave Valley | 14 |
| Do. do. Falmouth | 41 |
| Do. do. Ulster Spring | 8 |
| Do. do. St. James | 72 |
| Do. do. Lucea | 30 |
| Do. do. Sav.-la-Mar | 68 |
| Do. do. Black River | 72 |
| Do. do. Mandeville | 37 |
| Do. do. Chapelton | 35 |
| Do. do. Lionel Town | 50 |
| Do. do. Spanish Town | 70 |
| Do. do. Linstead | 60 |
| Lepers' Home, Spanish Town | 120 |

The need for increased accommodation at several hospitals is now very acute and can only be properly met in many cases by additional buildings. The St. James's Hospital is actually carrying over 120 beds under very overcrowded conditions, and some other hospitals, similarly, are 20% to 60% overcrowded. Arrangements are being made to provide maintenance for additional beds next year in those hospitals where space permits.

Considerable progress was recorded in improving hospital facilities during the year. The new Operating Theatre at the Kingston Hospital is designed and equipped on up-to-date lines, and will be in use early in the new year. Designs have been approved for a new Out-patients Department and X-ray Institute for the same hospital, and the work is being put in hand at once.

Maternity Wards have been completed at the Port Antonio, Buff Bay, Annotto Bay and Sav.-la-Mar hospitals. The Tuberculosis Wards at the St. Ann's Bay and Linstead hospitals were completed and put into use, and construction of similar wards at the Lucca, Sav.-la-Mar and Port Maria hospitals is in progress.

Construction of the Tuberculosis Sanatorium will be put in hand early next year on the site selected, and some preliminary work has already been carried out.

The new Tuberculosis Dispensary in Kingston is nearly completed, and will be put into use shortly, and the new building for the Venereal Diseases Clinic in Kingston was occupied during the year.

A site for a new hospital of 50 beds at Alexandria has been approved, and plans for construction are being expedited.

*Out-door Dispensary Service.*—The public took advantage to a greatly increased extent of the out-door dispensary ticket system established in 1934, there being 221,987 attendances during the year, as compared with 204,527 attendances in 1936. Five Dispensaries were opened during the year.

### (A)—*Report and Return of the Medical Superintendent, Kingston Public Hospital.*

The incidence of Malaria and Enteric Fevers shows a decrease from last year—698 cases in the former and 183 in the latter.

The increase of numbers treated in all departments still continues. The number for the Out-patients Department, including all Clinics except the departments of Dental and Radiology, shows a total of 191,537. In comparing with the total for 1936, patients treated with Out-patients Cards should be deducted as this was not then included in the total number of out-patients. The figures will then show an increase of 10,658.

Patients with Out-patients Cards also show an increase of 1,330 over last year.

Surgical Operations were increased by 304. Cases treated by the Department of Radilogy increased by 525. Cases treated by the Dental Department increased by 815.

I beg to draw attention to the necessity of an Isolation Hospital, as great difficulty is being experienced in isolating cases at this Institution. The return shows the number of infectious diseases treated during the year.

Approval has been given for the erection of a modern Out-patients Department, which will greatly facilitate and expedite the work of the Institution.

69 Nurses sat for and passed their final examination during the year and were presented with certificates. Four of these nurses were trained at the Nuttall Memorial Hospital.

Lectures to the Nursing Staff, have been given by the Matron and Assistant Matron.

Sister M. A. Levy retired on pension after 32 years service.

I regret to record the death of Nurse S. Lynch in May.

10 students qualified as Dispensers.

Mr. C. A. Robinson, Chief Dispenser, was appointed Medical Storekeeper and Mr. E. D. Bryce succeeded him here in April.

The Board of Visitors held their quarterly meetings, and inspected the Institution on these occasions.

Books, magazines, etc., were received from several members of the community for the use of the patients, who appreciated them greatly. I hereby express my thanks to them on behalf of the patients.

His Excellency the Governor and Lady Denham visited the hospital on Christmas Eve and distributed the toys to the children in the Nuttall Wards.

Statistical tables, showing the result of the services rendered by the hospital in its various departments, are attached herewith.

Finally, I have to record my appreciation of the co-operation of the entire staff of the Institution in the performance of their respective duties during the year under review.

Table I.

| | Males. | Females. | Total |
|---|---|---|---|
| Patients remaining in hospital, 1st January, 1937 | 195 | 145 | 340 |
| Patients admitted during the year 1937 .. | 4,564 | 3,781 | 8,345 |
| Total patients treated .. | 4,759 | 3,926 | 8,685 |
| Of those were cured .. .. .. | 1,707 | 1,747 | 3,454 |
| Of those were relieved .. .. .. | 2,131 | 1,486 | 3,617 |
| Of those were not relieved .. .. | 272 | 230 | 502 |
| Of those died .. .. .. | 459 | 323 | 782 |
| Remaining in Hospital, December 1937 .. | 190 | 140 | 330 |
| | 4,759 | 3,926 | 8,685 |

Table II.

| | |
|---|---|
| Daily average number of beds occupied by male patients .. .. | 208 |
| Daily average number of beds occupied by female patients .. | 178 |
| Average stay in days of those who died, males .. .. .. | 7 |
| Average stay in days of those who died females .. .. | 8 |
| Average stay in days of males discharged .. .. .. | 19 |
| Average stay in days of females discharged .. .. .. | 18 |
| Average stay in days of males remaining at end of year .. .. | 24 |
| Average stay in days of females remaining at end of year .. | 25 |
| Longest stay in days of any one patient .. .. .. | 365 |

Table III.

Patients who died within the following hours after admission:—

| 12 | | 24 | | 48 | | 72 | | Total. | |
|---|---|---|---|---|---|---|---|---|---|
| Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. |
| 89 | 46 | 75 | 79 | 47 | 34 | 36 | 19 | 247 | 178 |

Table IV.—No. of Patients from Countries and Parishes.

| Countries. | No. | Parishes. | No. |
|---|---|---|---|
| Africa | 3 | Kingston | 5,396 |
| America | 12 | St. Andrew | 2,746 |
| Canada | 5 | Port Royal | 18 |
| Cayman | 10 | St. Thomas | 64 |
| China | 15 | Portland | 32 |
| England | 60 | St. Mary | 62 |
| Germany | 5 | St. Ann | 29 |
| Haiti | 1 | St. James | 7 |
| India | 16 | Trelawny | 5 |
| Jamaica | 8,529 | Westmoreland | 5 |
| Norway | 15 | St. Elizabeth | 13 |
| Panama | 2 | Manchester | 20 |
| Scotland | 2 | Clarendon | 41 |
| Syria | 6 | St. Catherine | 155 |
| St. Vincent | 2 | Hanover | 6 |
| Trinidad | 2 | Foreign | 86 |
| Total | 8,685 | Total | 8,685 |

Table V.—Diseases and Deaths in the Kingston Public Hospital during 1937.

| | Cases. | Deaths. |
|---|---|---|
| I. *Epidemic, Endemic and Infectious Diseases*— | | |
| Enteric Fever | 137 | 43 |
| Malaria | 661 | 29 |
| Chicken Pox | 3 | . . |
| Measles | 53 | 1 |
| Scarlet Fever | 2 | . . |
| Whooping Cough | 9 | . . |
| Diphtheria | 12 | 6 |
| Influenza | 113 | . . |
| Mumps | 10 | . . |
| Dysentery— | | |
| (a) Amœbic | 37 | 1 |
| (b) Bacillary | 1 | 1 |
| (c) Other or unspecified | 6 | . . |
| Leprosy | 1 | . . |
| Acute Poliomyelitis | 4 | 1 |
| Cerebro-Spinal Meningitis | 1 | 1 |
| Yaws | 5 | . . |
| Tetanus | 11 | 9 |
| Tuberculosis (all forms) | | |
| Respiratory System | 92 | 11 |
| Central Nervous System | 5 | 5 |
| Intestines and Peritoneum | 15 | 4 |
| Vertebral Column | 16 | . . |
| Joints | 15 | . . |
| Other Organs | 13 | 4 |
| Syphilis | 410 | 8 |
| Congenital Syphilis | 6 | 5 |
| Gonoccocal Infection | 368 | . . |
| Gonorrheal Ophthalmia | 17 | . . |
| Septicæmia | 11 | 9 |
| II. *General Diseases not included in I*— | | |
| Cancer: | | |
| Pharynx, Oesophagus, Stomach, Liver and Annexa | 38 | 16 |
| Peritoneum, Intestines and Rectum | 11 | 4 |
| Female Genital Organs | 39 | 4 |
| Breast | 7 | . . |
| Skin | 3 | . . |
| Other or unspecified organs | 9 | 1 |
| Tumours not returned as malignant (Brain and female organs excepted) | 31 | . . |
| Rheumatic Fever | 9 | 1 |
| Chronic Rheumatism and Arthritis | 9 | . . |
| Pellagra | 2 | 1 |
| Diabetes | 80 | 16 |
| Pernicious Anæmia | 4 | 1 |
| Other Anæmias | 22 | 5 |
| Exophthalmic Goitre | 6 | 1 |
| Other Diseases of the Thyroid Gland | 13 | . . |

| | Cases. | Deaths. |
|---|---|---|
| Diseases of the Parathyroid Gland | 2 | 1 |
| Diseases of the Spleen | 2 | 1 |
| Leukæmia and Lymphadenoma | 8 | 4 |
| Alcoholism (acute and chronic) | 13 | .. |
| Chronic poisoning by mineral substances | 7 | 5 |
| Chronic poisoning by organic substances | 21 | 2 |
| III. *Diseases of the Nervous System, Eye and Ear—* | | |
| Meningitis | 10 | 9 |
| Tabes Dorsalis | 9 | .. |
| Other diseases of the Spinal Cord | 4 | .. |
| Cerebral Hæmorrhage | 11 | 10 |
| Cerebral Thrombosis | 39 | 24 |
| Hemiplegia | 8 | 2 |
| Other forms of paralysis | 6 | 2 |
| General Paralysis of the Insane | 2 | .. |
| Other forms of insanity | 7 | 1 |
| Epilepsy | 30 | 1 |
| Convulsions (non-puerperal) | 4 | 2 |
| Chorea | 1 | .. |
| Hysteria | 17 | .. |
| Neuritis | 39 | .. |
| Other diseases of the Nervous System— | | |
| Cerebral tumour | 1 | 1 |
| Paralysis Agitans | 4 | .. |
| Idiocy | 1 | .. |
| Diseases of the Eye and Annexa | 370 | .. |
| Diseases of the Ear and Mastoid Sinus— | | |
| Diseases of the Mastoid Sinus | 17 | 1 |
| Diseases of the Ear | 21 | |
| IV. *Diseases of the Circulatory System—* | | |
| Pericarditis | 1 | .. |
| Endocarditis | 8 | 7 |
| Myocarditis | 80 | 48 |
| Other diseases of the heart— | | |
| (1) Aortic Valve Disease | 21 | 7 |
| (2) Mitral Valve Disease | 20 | 1 |
| (3) Aortic and Mitral Disease | 10 | 4 |
| (4) Dilation of Heart and Cardiac Failure | 25 | 25 |
| (5) Heart Diseases undefined | 20 | 5 |
| Diseases of the Arteries— | | |
| Aneurysm | 7 | 3 |
| Embolism and Thrombosis (not cerebral) | 4 | 4 |
| Diseases of the Veins | 56 | 1 |
| Diseases of the Lymphatic System | 125 | .. |
| Other diseases of the Circulatory System | 27 | 2 |
| V. *Diseases of the Respiratory System—* | | |
| Diseases of the accessory nasal sinuses | 52 | .. |
| Diseases of the Larynx—Laryngitis | 3 | |
| Bronchitis— | | |
| (a) Acute Bronchitis | 10 | 5 |
| (b) Chronic Bronchitis | 184 | .. |
| Broncho-Pneumonia | 135 | 74 |
| Lobar Pneumonia | 28 | 7 |
| Pneumonia (not defined) | 98 | 41 |
| Pleurisy— | | |
| (1) Empyema | 3 | .. |
| (2) Other Pleurisy | 34 | 1 |
| Congestion of the Lungs | 3 | .. |
| Gangrene of the Lung | 1 | 1 |
| Asthma | 10 | .. |
| Other diseases of the Respiratory System | 2 | .. |
| VI. *Diseases of the Digestive System—* | | |
| Diseases of the buccal cavity and annexa | 32 | .. |
| Tonsilitis and Adenoid vegetations | 181 | .. |
| Ulcer of Stomach | 47 | 12 |
| Ulcer of Duodenum | 13 | .. |
| Inflammation of Stomach | 73 | .. |
| Other diseases of Stomach | 40 | .. |
| Colitis | 14 | 1 |
| Other diseases | 149 | 23 |
| Ankylostomiasis | 27 | .. |
| Diseases due to other intestinal parasites | 19 | 2 |
| Appendicitis | 386 | 9 |
| Appendix abscess | 20 | 3 |

| | Cases. | Deaths. |
|---|---|---|
| Hernia | 153 | 5 |
| Intestinal obstruction | 28 | 24 |
| Other diseases of the Intestines— | | |
| Intestinal stasis | 104 | 1 |
| Other diseases | 69 | 1 |
| Acute yellow atrophy of the liver | 5 | 3 |
| Cirrhosis of liver (not returned as alcoholic) | 77 | 23 |
| Biliary Calculi | 8 | . . |
| Other diseases of the liver | 61 | 11 |
| Diseases of the Pancreas | 3 | 1 |
| Peritonitis without stated cause | 21 | 13 |
| VII. *Non-Venereal Diseases of Genito-Urinary System and Annexa*— | | |
| Acute Nephritis | 9 | 2 |
| Chronic Nephritis | 62 | 6 |
| Cardio-renal disease | 48 | 14 |
| Other diseases of the Kidneys and Annexa | 64 | 19 |
| Calculi of the Urinary System | 9 | . . |
| Cystitis | 39 | 2 |
| Other diseases of the Bladder | 2 | . . |
| Diseases of the Urethra | | |
| (a) Stricture of the Urethra | 66 | 4 |
| (b) Other diseases of the Urethra | 61 | 2 |
| Diseases of the Prostate | 22 | 4 |
| Non-venereal diseases of the male genital organs | 200 | . . |
| Cysts and other tumours of ovary, not returned as malignant | 33 | . . |
| Salpingitis and pelvic abscess— | | |
| (1) Salpingitis | 195 | 2 |
| (2) Pyosalpinx | 46 | 7 |
| (3) Salpingo-oophoritis | 10 | 1 |
| (4) Pelvic abscess | 4 | . . |
| Tumours of the Uterus, not returned as malignant | 191 | 6 |
| Non-puerperal uterine hæmorrhage | 12 | . . |
| Other diseases of the Uterus | 227 | 1 |
| Non-puerperal diseases of the breast | 15 | . . |
| VIII. *The Puerperal State*— | | |
| Accidents of Pregnancy: | | |
| (a) Abortions | 20 | . . |
| (b) Ectopic | 16 | 1 |
| (c) Other accidents of pregnancy | 6 | . . |
| Pregnancy | 9 | . . |
| Other accidents of childbirth | 3 | . . |
| Puerperal sepsis | 3 | 2 |
| IX. *Diseases of Skin and Cellular Tissues*— | | |
| Gangrene | 13 | 2 |
| Carbuncle and Boil | 20 | . . |
| Cellulitis | 45 | 2 |
| Abscess | 185 | . . |
| Other diseases of the skin and its annexa— | | |
| Ulcer and bedsore | 205 | . . |
| Eczema | 8 | . . |
| Pemphigus | 1 | . . |
| Other diseases | 63 | . . |
| X. *Diseases of the Bones and Organs of Locomotion*— | | |
| Acute and Chronic Osteomyelitis and Periostitis | 57 | 1 |
| Diseases of the joints | 35 | 1 |
| Amputations | 46 | . . |
| Other diseases of the organs of locomotion | 29 | . . |
| XI. *Congenital Malformations*— | | |
| Congenital malformation of heart | 1 | . . |
| Other congenital malformations | 38 | 11 |
| XII. *Diseases of Early Infancy* | 28 | 15 |
| XIII. Senile Dementia | 3 | 1 |
| Other forms of Senile Decay | 4 | 2 |
| Burns | 100 | 8 |
| Injury by firearms | 10 | 2 |
| Injury by piercing or cutting instruments | 21 | . . |
| Drowning | 1 | 1 |
| Injury by other forms | 486 | 16 |
| Fractures | 323 | 15 |
| Dislocations | 12 | . . |
| Starvation | 6 | . . |
| Ill defined causes | 188 | 10 |
| | 8,768 | 782 |

## Table VI.

| | Cases. |
|---|---|
| 1. *Operations upon the Female Genital Organs*— | |
| Pan Hysterectomy | 10 |
| Total Hysterectomy | 4 |
| Sub-total Hysterectomy | 136 |
| Myomectomy | 40 |
| Salpingectomy | 197 |
| Salpingo-oophorectomy | 50 |
| Draining Pyosalpinx | 19 |
| Oophorectomy | 52 |
| Ovariotomy | 1 |
| Draining Ovarian Cyst | 8 |
| Excision of Broad Ligament Cyst | 8 |
| Draining Pelvic Abscess | 16 |
| Uterine Suspension | 20 |
| Curettage | 111 |
| Dilatation of Cervix | 69 |
| Perineorrhaphy | 4 |
| Colporrhaphy | 10 |
| Repair of Recto-Vaginal Fistula | 2 |
| Repair of Vesico-Vaginal Fistula | 5 |
| Removal of Cervical Polyp | 5 |
| Plastic Operation to Vagina | 4 |
| Trachelorrphy | 4 |
| Ectopic Gestation | 16 |
| Cauterizing Cervix | 4 |
| Excision of Ovarian Cyst | 21 |
| Excision of Bartholin Cyst | 14 |
| Shortening Round Ligament | 5 |
| 2. *Operations on Hernia*— | |
| Inguinal | 148 |
| Umbilical | 6 |
| Ventral | 4 |
| 3. *Operations for Appendicitis*— | |
| Appendicectomy | 580 |
| Appendix Abscess | 20 |
| 4. *Operations on Stomach and Intestines*— | |
| Perforation of Gastric Ulcer | 16 |
| Laparotomy for Intestinal Obstruction | 15 |
| Gastro-enterostomy | 10 |
| Gastrectomy | 3 |
| Gastrotomy | 1 |
| Caecostomy | 1 |
| Colostomy | 3 |
| Resection of Gut | 1 |
| Draining Peritoneal Cavity | 12 |
| Draining Abdominal Abscess | 5 |
| Exploratory Laparotomy | 9 |
| Laparotony for Tubercular Peritonitis | 2 |
| 5. *Operations on the Kidneys and Bladder*— | |
| Nephrectomy | 1 |
| Supra Pubic Cystostomy | 18 |
| Cystoscopy | 12 |
| Uretro-colic Transplantation | 3 |
| 6. *Operations on the Penis and Urethra*— | |
| Circumcisions | 228 |
| Partial Amputation of Penis | 1 |
| Separation of Adherent Prepuce | 14 |
| Dilating Urethral Stricture | 73 |
| Operation for Priaprism | 1 |
| External Urethrotomy | 2 |
| Repair of Urinary Fistulae | 3 |
| 7. *Operations on the Testicles and Scrotum*— | |
| Orchidectomy | 2 |
| Radical cure for Hydrocele | 19 |
| Undescended Testicles | 3 |
| Steinach Ligature | 3 |
| Scrotal Abscess and Haematoma | 3 |
| 8. *Operations on Retcum and Anus*— | |
| Haemorrhoidectomy | 41 |
| Injection of Haemorrhoids | 4 |
| Dilating Rectal Stricture | 25 |
| Sigmoidoscopy | 9 |
| Prostoscopy | 7 |
| Anal Fistulae | 12 |
| Rectal Polyp | 3 |
| Adomino-pernical re-section of Rectum | 1 |
| 9. *Amputations*— | |
| Legs | 20 |
| Forearm | 3 |
| Fingers | 22 |
| Toes | 14 |
| 10. *Operations on the Thorax*— | |
| Amputations of Breat for malignancy | 6 |
| Adenoma of Breast | 2 |
| Empyema | 2 |
| Thoracoplasty | 13 |
| Thoracostomy | 3 |
| Resection of Rib | 2 |
| Pneumolysis | 8 |
| Draining Lung Abscess | 2 |
| Trachectomy | 7 |
| Excision of Bronchial Fistula | 1 |
| 11. *Operations on the Ear*— | |
| Radical cure for Mastoid | 11 |
| Conservative operation for Mastoid | 4 |
| Removal of Aural Polyp | 3 |
| Dilating Infundibulum | 4 |
| Myringotomy | 1 |
| 12. *Operations on the Nose, etc.*— | |
| Removal of Adenoids | 586 |
| Tonsillectomy | 693 |
| Dissection of Tonsils | 96 |
| Nasal Polyp | 63 |
| Turbinectomy | 1 |
| Removal of Papiloma of Larynx | 1 |
| Dilatation of Nasal Passage | 6 |
| Laryngoscopy | 1 |
| Uvula | 1 |
| 13. Operations for Cleft Palate | 8 |
| Tracheotomy | 7 |
| Hare-Lip | 6 |
| 14. Suturing Tendons | 19 |
| Tenotomy | 1 |
| 15. Operations on Antrum and Frontal Sinus | 75 |
| 16. *Ophthalmic Operations*— | |
| Extraction of Cataract | 64 |
| Needling Cataract | 145 |
| Needling Capsule | 6 |
| Scleral Trephine | 11 |
| Iridectomy | 37 |
| Enucleation of Eyeball | 23 |
| Operation for Squint | 6 |
| Meibomian Cysts | 100 |
| Pterygium | 174 |
| Lachrymal Apparatus | 25 |
| Prolapsed Iris | 4 |

| | Cases. |
|---|---|
| Separation of Synechiae | 3 |
| Detached Retina | 1 |
| Cyclodialysis | 2 |
| Plastic Operations to Eyelid | 4 |
| 17. *Operations on Infections of Bones*— | |
| Osteomyelitis | 36 |
| Sequestrotomy | 21 |
| Ostectomy | 10 |
| Spinal Graft | 1 |
| 18. Dislocations | 30 |
| 19. Trephining Skull | 10 |
| 20. *Fractures of Bones*— | |
| Plating | 1 |
| Wiring | 9 |
| Reduction of Fractures | 14 |
| Insertion of Pins | 12 |
| Plasters | 54 |
| 21. *Operations on the Thyroid Gland*— | |
| Thyroidectomy | 13 |
| Adenoma Thyroid | 1 |
| Excision of Thyroid Cyst | 1 |
| 22. *Operations on Liver and Gall Bladder*— | |
| Cholecystectomy | 4 |
| Cholecystostomy | 3 |
| 23. *Excision of Glands*— | |
| Cervical | 1 |
| Inguinal | 29 |
| Auxillary | 2 |

| | Cases. |
|---|---|
| 24. Removal of Foreign Bodies | 63 |
| Examinations | 48 |
| Excision of Toe Nail | 76 |
| Excision of Finger Nail | 11 |
| Excision of Lipoma | 8 |
| Diathermy Therapy | 61 |
| Excision of Bursae | 9 |
| Ligature of Arteries | 3 |
| Breaking down Adhesions | 3 |
| Scraping Ulcer | 10 |
| Excision of Warts | 11 |
| Excision of Ganglion | 17 |
| Suturing Wounds | 31 |
| Opening Septic Hand | 16 |
| Dental Extraction | 30 |
| Excision of Fibroma | 8 |
| Biopsy | 16 |
| Keloids | 5 |
| Excision of Sebaceous Cyst | 48 |
| Excision of Supernumerary Digit | 5 |
| Excision of Growth | 16 |
| Incision of Carbuncle | 7 |
| Incision of Abscesses | 140 |
| Excision of Ranula | 1 |
| Aspiration Knee Joint | 6 |
| Incision Haematoma Scalp | 3 |
| Lumbar Puncture | 6 |
| Epulis | 2 |
| Cauterization | 16 |
| Injection of Varicose Veins | 2 |
| Removal of Bone Plates | 2 |
| Arthrotomy | 16 |
| Draining Splenic Abscess | 1 |
| Excision of Dermoid Cyst | 7 |
| Excision of Mesenteric Cyst | 3 |
| | 5,414 |

Table VII.

| N. A. B. | Bismuth. | G. C. Vaccines. | Tartar Emetic. | Individuals treated with N. A. B. | Treated for V. D. | Admissions. | | Discharges. | | Dressed and Irrigated. | | Operations. | Prescriptions Dispensed. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | M. | F. | M. | F. | M. | F. | | Wards | O.P.D |
| 10,013 | 11,998 | 756 | 35 | 7,000 | 22,011 | 671 | 483 | 624 | 446 | 19,426 | 7,984 | 351 | 2,032 | 10,266 |

Table VIII.

| Patients with O. P. Cards | No. of Casualty patients | Dressings in Out-patients Department. | Minor Operations in Out-patients Department. | Clinics. | | | Total No. of Out-Patients | Surgical Operations. | General Admissions. By S.M.O. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ear, Nose and Throat | Eye. | Orthopædic | | | Applications | Admissions |
| 11,058 | 79,118 | 79,820 | 6,438 | 3,471 | 8,345 | 3,287 | 191,537 | 4,273 | 5,347 | 2,636 |

### Table IX.—Prescriptions Dispensed during 1937.

| | |
|---|---|
| No. of Patients with O. P. Cards | 11,058 |
| No. of Patients without O. P. Cards | 46,833 |
| Number of Prescriptions for: | |
| Patients with O. P. Cards | 32,478 |
| Patients without O. P. Cards | 78,689 |
| Jubilee Hospital | 4,075 |
| Constabulary | 1,009 |
| Tuberculosis Hospital | 740 |
| Railway | 62 |
| Nurses Home | 20 |
| Prisoners | 25 |
| Total number of Prescriptions | 117,098 |

### Table X.—Summary of Work performed at the Dental Clinic attached to the Public Hospital, Kingston.

| | |
|---|---|
| No. of Patients treated | 5,304 |
| No. of Extractions | 9,574 |
| No. of Mouth Washes prescribed | 104 |
| No. of Minor Operations | 8 |
| No. of removal of Necro Process | 9 |
| No. of Cleanings | 2 |

S. C. DePass,
Surgeon Dentist, Public Hospital.

### Table XI.—*Radiology Department.*

| | |
|---|---|
| Total number of patients X-rayed from January to December, 1937 | 4,246 |
| No. of Gastro-Intestinal Cases | 320 |
| No. of Gall Bladders—Cholecystography | 75 |
| No. Urinary Tract—Urography | 138 |
| Chests | 598 |
| No. of Obstetrical examinations | 75 |
| No. of Bone Examinations—Fractures, infections and tumours | 2,568 |
| Miscellaneous | 472 |

C. H. Parkin,
Radiologist, Public Hospital.

### (B) *Report of the Resident Medical Officer of the Victoria Jubilee Lying-in Hospital for year ended* 31st *December*, 1937.

| | | |
|---|---|---|
| Admissions (including re-admissions) showing an increase of 701 over the previous year. | | 2,520 |
| Married Patients | | 583 |
| Single Patients | | 1,937 |
| Deliveries— | | |
| Live Births | | 1,950 |
| (a) Full Term | | 1,897 |
| (b) Premature | | 53 |
| Dead and Still births | | 39 |
| Macerated | | 48 |
| Miscarriages | | 57 |
| Operative Deliveries including Inductions | | 31 |
| There were 16 Breech including Footling Presentations. | | |
| Twins | | 36 |
| Deaths— | | |
| Maternal | | 17 |
| From Myocarditis | 1 | |
| From Puerperal Sepsis | 3 | |
| From Anaemia (Asthenia) | 1 | |
| From Post Partum Haemorrhage | 1 | |
| From Pulmonary Embolism | 1 | |
| From Obstetrical Shock | 3 | |
| From Peritonitis | 2 | |
| From Acute Yellow Atrophy of the Liver | 1 | |
| From Intestinal Obstruction | 1 | |
| From Eclampsia | 3 | |
| Infantile | | 55 |
| From Prematurity | 49 | |
| From Umbilical Hæmorrhage | 1 | |
| From Crebral Haemorrhage | 3 | |
| From Congenital Malformation (intestines) | 2 | |

### *Maternal Abnormalities and Complications.*

A. *True Complications of Pregnancy—*

| | | | |
|---|---|---|---|
| Albuminuria | 32 | Mal Presentations | 10 |
| Eclampsia | 22 | Subinvolutions | 31 |
| Ante and Post Partum Hæmorrhage | 15 | Puerperal Insanity | 1 |
| Placenta Praevia | 7 | Puerperal Sepsis | 5 |
| Vesicular and Carneous Moles | 4 | Abortions | 86 |
| Adherent and Retained Placenta | 10 | Ectopic Gestation | 1 |
| Hyperemesis Gravidarum | 11 | Contracted Pelvis | 1 |
| Hydramnios | 1 | Nephritic Toxæmia | 13 |
| Pyelitis | 16 | Thrombo-Phlebitis | 1 |

B. *Other Abnormalities—*

| | | | |
|---|---|---|---|
| Malaria | 13 | Polycystic Kidney (bilateral) | 1 |
| Enteric Fever | 2 | Amœbic Dysentery | 1 |
| Mumps | 1 | Pseudocyesis | 1 |
| Measles | 1 | Pulmonary Embolism | 1 |
| Vesico-vaginal Fistula | 1 | Dry Pleurisy | 1 |
| Endometritis | 2 | G. C. Peritonitis | 1 |
| Salpingitis and Pyosalpinx | 7 | G. C. Arthritis | 3 |
| Cardiac Disease | 3 | Inguinal Adenitis | 1 |
| Helminthiasis | 4 | Infantile Uterus | 1 |
| Pulmonary Tuberculosis | 4 | Cardio-Renal Disease | 1 |
| Cystic Ovaries | 3 | Mastitis | 4 |
| Uterine Fibroids | 8 | Sapræmia | 8 |

*Foetal Abnormalities and Complications—*

| | | | |
|---|---|---|---|
| Umbilical Herniæ | 23 | Absence of Mandible | 1 |
| Hare-lip and Cleft Palate | 2 | Absence of Right Pinna | 1 |
| Talipes | 1 | Congenital Malformation (Intestines) | 2 |
| Opthalmia Neonatorum | 18 | Umbilical Hæmorrhage | 2 |
| Extra Digits | 12 | Anencephalic Head | 1 |
| Hydrocephalus | 1 | | |

| | |
|---|---|
| *Operations* (*Major*)— | |
| Curettages | 61 |
| Caesarean Sections | 2 |
| For Ectopic Gestation | 1 |
| Hysterectomies—Sub-Total | 3 |
| Myomectomy | 1 |
| Exploratory Laparotomy | 3 |
| Cervical Polypi | 1 |
| *Operations* (*Minor*) | 198 |

*Ante-Natal Clinic.*—There were 3,773 visits to the Ante-Natal Clinic during the year ending 1937; of these 37 were Albuminurics, and 1 Contracted Pelvis. The visits to this Clinic in 1937 showed an increase of 1,514, compared with 1936.

J. M. Stockhausen,
Resident Medical Officer, Victoria Jubilee Lying-in
Hospital.

### (C) *Report and Returns of the Medical Superintendent, Mental Hospital.*

There were 2,148 patients under care and treatment on the 31st day of December, 1937. Of this number 1,056 were males and 1,092 females. The daily average number during the year was 2,089 and the highest number requiring accommodation in any one day was 2,150.

There has been an increase in the daily average number of patients of 66 over the previous year.

### Admissions and Discharges.

During the year under review 572 patients were admitted—males 301, females 271; and 488 were discharged or died—males 256, females 232. Of the discharged 141 left the Institution as "recovered", and 89 as "relieved."

The percentage of cases discharged "recovered" as based on the number of admissions during the year was 24.65 whilst that of cases discharged "relieved" similarly based was 15.56.

### Death Rate.

258 paitents died, males 137, females 121, an increase of 17 as compared with the death rate for 1936.

Pulmonary Tuberculosis, Dysentery and Diarrhœa still constitute a fairly large percentage of the morbidity rate among the population, the main contributing cause being lack of personal hygiene. This, for obvious reasons is difficult to control. The mortality rate, however, in respect of these diseases is less as compared with that of past years, due no doubt to improved Sanitary Arrangements.

The morbidity rate in respect to Ankylostomiasis is very high. As a routine measure the stools of all patients on admission are submitted to bacteriological analyses, and it is remarkable that at least 80% of admissions are infested with Ankylostomiasis or Tricocephalus. These patients as a rule, however, very readily respond to appropriate treatment; incidentally the Psychosis also tend to disappear upon removal of the offending helminths

The Rockefeller Foundation carried out, throughout the year, the usual Tuberculin tests, and the report of Dr. E. W. Flahiff is to be found in Part II: I,

## PRINCIPAL TYPES OF MENTAL DISORDERS ADMITTED.

The principal types of Insanity include Schizophrenia, Manic Depressive Psychosis, Confusional Psychosis, Dementia Paralytica, Insanity with Epilepsy.

There was a relatively slight increase of Dementia Paralytica among the female population.

An inordinate religious passion is no doubt a contributing factor in Confusional Psychosis.

## PRINCIPAL CAUSES OF INSANITY.

The principal causes of Insanity were Heredity, Syphilis and a faulty cultural environment. Too much emphasis cannot be placed on the last named. Parents and guardians often lack the proper perspective in the training of the child, who if certain propensities were nipped in the bud would form less anti-social complexes, a fertile nucleus for the genesis of certain types of psychoses.

## NEW WORKS AND REPAIRS.

There was no extension to the existing accommodation for patients during the year under review. A recreation building for Attendants was erected but the accommodation provided is inadequate to meet the needs of the large staff. The roof of Belle Vue residence of the Medical Superintendent was re-conditioned and the interior of the building partly repainted. Outbuildings at the Quarters of the Gate Porter were erected. Extensive repairs were made to the swimming pool attached to the Institution.

The roof of B. Ward, Male Division, was also reconditioned.

Sanitary conveniences for the use of the Subordinate Staff were arranged in both Divisions.

The amount of repair work, painting, patching and other minor works has been considerable as in the past and in this the Public Works Department has been greatly assisted by labourers in the Institution.

## FARM AND GROUNDS.

Labour in the Institution has again been utilised for the purpose of gardening. The plots however, used are now exhausted with the result that the returns from the gardens were disappointing and amounted to 6¼ tons as compared with a return of 10 tons in 1936. In order to overcome this disadvantage, it is proposed to use artificial manure and where possible change the location of gardens, as there is more land available for the purpose.

The returns were also affected by unseasonable weather during the year.

The value of produce obtained from the Farm during the year was,

| | | | |
|---|---|---|---|
| Vegetables .. .. .. | £73 | 2 | 6 |
| Manure .. .. | 16 | 2 | 3 |
| Divi Divi .. .. | 19 | 13 | 6 |
| | 108 | 18 | 3 |

The following sums were paid to the Institution for work done:

| | | | |
|---|---|---|---|
| (a) Laundry for the Public Hospital, Kingston | £133 | 2 | 10 |
| (b) Broom making do. do. | 1 | 10 | 2 |

Of the amount for Laundry £72 12s. 6d. was credited to Patients Fund and £60 10s. 4d. to the credit of Miscellaneous Revenue.

## BOARD OF VISITORS.

Four regular meetings of the Board of Visitors and one special meeting were held during the year and all meetings were well attended. The vacancy on the Board was filled by the appointment of Honourable Noel B. Livingston, Custos of Kingston.

The appeals of several members of the Subordinate Staff were dealt with by the Board in addition to matters of a routine nature.

Visits were paid to the Institution by the Honourable Major T. J. Hallinan, C.B.E., Dr. J. M. Hall while acting as Director of Medical Services, the Very Reverend Father Kelly, S.J., V. C. Alexander, Esq., A. O. Ritchie, Esq., and Dr. Joyce Saward.

## VISITS.

His Excellency the Governor visited the Institution on December 24th and left packages of cigarettes and sweets for the patients. The visit was appreciated both by Staff and patients.

His Excellency was accompanied by Honourable C. C. Woolley, Colonial Secretary.

Visits were also paid to the Institution by Mr. Alexander Paterson, His Majesty's Commissioner for Prisons in England and Wales, Mr. A. D. Power and Reverend Father Leo. T. Butler, S.J.

## CHURCH SERVICES.

Regular Church Services were held weekly during the year and frequent visits were paid to the wards by a Priest of the Roman Catholic Denomination.

Attendance at Services: Church of England, 140 males, 92 females
Roman Catholic, 25 males, 12 females.

## AMUSEMENT OF PATIENTS.

Cricket was the main form of amusement indulged in by patients during the year and two matches for male and female patients captained by members of the Staff were arranged during the year and greatly appreciated.

Footballs and Bowls were also played.

Several concerts and entertainments were arranged and enjoyed by a large number of patients. The radiophone attached to the Amusement Theatre was repaired and provided dance music for the entertainment of the patients.

The Combined Medical Service C. C. again competed in the Junior Cricket Competition and the Inter-Departmental Knock Out Competition, but were not successful. The Club was runners up in both these Competitions.

## EMPLOYMENT OF PATIENTS.

The number of male patients usefully employed amounted to 544. Of this number 54 were employed at trades, 240 assisted in Agriculture and Gardening, and 250 did work as messengers and porters and assisted in domestic duties.

The Female Division had 410 female patients usefully employed; 42 of these were employed in agriculture and gardening; 128 were employed in the Laundry and Sewing Room; and 240 assisted in the wards and kitchen and general household work.

It is significant that most of these patients occupy themselves usefully in these activities, which is in marked contrast to their indolence if and when they are discharged from the Institution.

## STAFF.

The death of Dr. R. W. Dale Hewson, Medical Superintendent, which occurred on the 3rd February, removed an outstanding figure in the Service. He was a most efficient and capable administrator. Many of the reforms instituted must be credited to him. He was indefatigable in his efforts to do the maximum of good to the greatest number. His loss is keenly felt.

Dr. J. J. Cameron, First Assistant Medical Officer acted as Medical Superintendent for the greater portion of the year until the arrival from England on 7th November of Dr. H. E. C. Aslett who was appointed Medical Superintendent.

Dr. Aslett, however, resigned as from 7th December, and Dr. U. N. Murray, Second Assistant Medical Officer, was appointed to act as Medical Superintendent, three months' vacation leave having been granted to Dr. J. J. Cameron, First Assistant Medical Officer, in the meantime.

Dr. J. F. B. Sanguinetti was transferred to the Public General Hospital as from 1st April, and his place was taken by Dr. G. E. W. Finzi.

Dr. A. St. G. Stephenson joined the Staff on 8th December.

Miss S. M. Aris assumed duties as an Assistant on 1st February.

Miss H. J. Tyler, Matron, obtained seven months leave of absence, during the year.

Mr. E. Thomas, Chief Attendant, obtained three months leave of absence.

Mr. I. A. Jervis, Assistant, was granted four weeks' leave of absence.

Miss L. A. Hutchinson, Assistant Storekeeper, was granted eight weeks leave of absence.

## SUBORDINATE STAFF.

The Subordinate Staff has given satisfactory service during the year. As an outcome of the report of the Committee of Enquiry the hours of duty were reduced to ten hours per diem and this was made possible by an increase of staff during the year.

There was no examination in Mental Nursing during the year, but lectures and training were given in both Divisions.

Four Attendants died during the year and one was discharged.

Two Nurses died during the year, five resigned and three were discharged.

The funds of the Staff Amusement Club were amalgamated with the Fine Fund which now provides entertainment for the Subordinate Staff. During the year there were three outings to the country.

The Thrift Club has again experienced a successful year when the return on investments was about 4%. This Club serves a very useful purpose in the Institution, and its success has been due chiefly to the work of the Treasurer Mr. W. S. Grizzle, Storekeeper.

## MENTAL HOSPITAL.

Population return 31st December, 1937.

| | Males. | Females. | Total. | Males. | Females. | Total. |
|---|---|---|---|---|---|---|
| Remaining 31st December, 1936 | 1,011 | 1,053 | 2,064 | 1,011 | 1,053 | 2,064 |
| Admitted during 1937 | 301 | 271 | 572 | .. | .. | .. |
| Born 1937 | .. | 1 | 1 | .. | .. | .. |
| Captured 1937 | 3 | .. | 3 | 304 | 272 | 576 |
| Total under care, 1937 | .. | .. | .. | 1,315 | 1,325 | 2,640 |
| Discharged—recovered | 75 | 66 | 141 | .. | .. | .. |
| " relieved | 44 | 45 | 89 | .. | .. | .. |
| " not improved | .. | .. | .. | .. | .. | .. |
| Escaped | 3 | .. | 3 | .. | .. | .. |
| Infants died | .. | .. | .. | .. | .. | .. |
| " discharged | .. | 1 | 1 | .. | .. | .. |
| Patients died | 137 | 121 | 258 | .. | .. | .. |
| Total discharged and died | .. | .. | .. | 259 | 233 | 492 |
| Remaining 31st December, 1937 | .. | .. | .. | 1,056 | 1,092 | 2,148 |

Table I.—Showing the Actual Admissions, Re-admissions, Discharges and Deaths during the Calendar Year ended 31st December, 1937.

| | Males. | Females. | Total. | Males. | Females. | Total. |
|---|---|---|---|---|---|---|
| In Mental Hospital, 1st January, 1937 | .. | .. | .. | 1,011 | 1,053 | 2,064 |
| Cases admitted— | | | | | | |
| First admissions | 236 | 191 | 427 | .. | .. | .. |
| Not First admissions | 65 | 80 | 145 | .. | .. | .. |
| Captured | 3 | .. | 3 | .. | .. | .. |
| Born | .. | 1 | 1 | .. | .. | .. |
| Total cases admitted during the year | .. | .. | .. | 304 | 272 | 575 |
| Total cases under care during the year | .. | .. | .. | 1,315 | 1,325 | 2,640 |
| Cases discharged— | | | | | | |
| Recovered | 75 | 66 | 141 | .. | .. | .. |
| Relieved | 44 | 45 | 89 | .. | .. | .. |
| Escaped | 3 | .. | 3 | .. | .. | .. |
| Died | 137 | 121 | 258 | .. | .. | .. |
| Sent to Public Hospital for surgical treatment | .. | .. | .. | .. | .. | .. |
| Infants died | .. | .. | .. | .. | .. | .. |
| Infants discharged | .. | 1 | 1 | .. | .. | .. |
| Total discharged and died during the year | .. | .. | .. | 259 | 233 | 492 |
| Remaining in Mental Hospital, 31st December, 1937 | .. | .. | .. | 1,056 | 1,092 | 2,048 |
| Average number resident during the the year | .. | .. | .. | 1,022 | 1,067 | 2,089 |

Table 1a—Showing the number of previous attacks among those admitted during the Calendar Year 1937, distinguishing those attacks that have been treated to recovery and discharged.

| Number of previous Attacks. | Having had previous Attacks. | | | | | |
|---|---|---|---|---|---|---|
| | All Attacks. | | | Attacks followed by Discharge or Recovery. | | |
| | Males. | Females. | Total. | Males. | Females. | Total. |
| Have had 1 previous attack .. | 52 | 52 | 104 | 11 | 44 | 55 |
| Have had 2 previous attacks .. | 11 | 13 | 24 | 2 | 10 | 12 |
| Have had 3 previous attacks .. | 7 | 8 | 15 | 4 | 9 | 13 |
| Have had 4 previous attacks .. | 1 | 7 | 8 | .. | 6 | 6 |
| Have had more than 5 attacks .. | 12 | 5 | 17 | 3 | 5 | 8 |
| Unknown .. .. .. | 1 | 3 | 4 | .. | 3 | 3 |
| | 84 | 88 | 172 | 20 | 77 | 97 |

Table II.—Showing the Causes of Deaths among Male Patients during the calendar year, 1937, with the ages at Death.

| | Under 20 | 20 and under 30 | 30 and under 40 | 40 and under 50 | 50 and under 60 | 60 and under 70 | 70 and over. | Total. |
|---|---|---|---|---|---|---|---|---|
| | M. | M | M | M | M | M | M | M |
| Chronic Brain Disease .. | .. | .. | .. | 3 | .. | .. | .. | 3 |
| Cerebral Hæmorrhage .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Peritonitis .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Status Epilepticus .. | .. | .. | 2 | .. | .. | .. | .. | 2 |
| General Paralysis .. | .. | 2 | 17 | 9 | 6 | 3 | 1 | 38 |
| Acute Ulcerative Colitis .. | .. | 2 | 2 | 1 | .. | 1 | .. | 6 |
| Intestinal Obstruction .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Chronic Ulcerative Colitis .. | .. | .. | 2 | 3 | 2 | .. | .. | 7 |
| Entero-Colitis .. | .. | 2 | 1 | 2 | .. | .. | 1 | 6 |
| Syphilis .. .. | .. | 1 | .. | .. | .. | .. | .. | 1 |
| Pulmonary Tuberculosis .. | 1 | 5 | 4 | 1 | 1 | .. | .. | 12 |
| General Tuberculosis .. | .. | 1 | 1 | .. | .. | .. | .. | 2 |
| Encephalitis .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Chronic Heart Disease .. | .. | .. | .. | 2 | .. | .. | .. | 2 |
| Dysentery, Amoebic .. | .. | 1 | .. | 2 | .. | .. | .. | 3 |
| Acute Pericarditis .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Chronic Nephritis .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Pneumonia .. | .. | 3 | .. | 4 | 2 | 4 | .. | 13 |
| Aortic Incompetency .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Senile Decay .. | .. | .. | .. | .. | .. | 1 | 6 | 7 |
| Acute Nephritis .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Acute Cerebritis .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Septicaemia and Pyaemia .. | .. | .. | 1 | 1 | .. | .. | .. | 2 |
| Pleurisy .. | .. | .. | 1 | .. | .. | 1 | 1 | 3 |
| Ruptured Aortic Aneurysm .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Carcinoma of Stomach .. | .. | 1 | .. | .. | .. | .. | .. | 1 |
| Cirrhosis of Liver .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Lung Abscess .. | .. | 1 | 2 | .. | .. | .. | .. | 3 |
| Acute Meningitis .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Acute Oteitis Media .. | .. | .. | 1 | .. | .. | .. | .. | 1 |
| Carcinoma of Pulvic Colon .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Ankylostomiasis .. | .. | 3 | .. | .. | .. | .. | .. | 3 |
| Osteomyelitis of Femur .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Secondary Anæmia .. | .. | 1 | .. | .. | .. | .. | .. | 1 |
| Enteric Fever .. | .. | 1 | .. | .. | .. | .. | .. | 1 |
| Maniacal Exhaustion .. | .. | 2 | 4 | 1 | 3 | .. | .. | 10 |
| Internal Hæmorrhage .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Diabetic Gangrene .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| .. | | | | | | | | 135 |

Table IIa.—Showing the Causes of Deaths among Female Patients during the Calendar Year 1937, with the ages at Death.

| —— | Under 20 | 20 and under 30 | 30 and under 40 | 40 and under 50 | 50 and under 60 | 60 and under 70 | 70 and over | Total. |
|---|---|---|---|---|---|---|---|---|
| | F | F | F | F | F | F | F | F |
| Status Epilepticus . . | . . | 1 | . . | . . | . . | . . | . . | 1 |
| Cerebral Hæmorrhage . . | . . | . . | . . | . . | 1 | . . | . . | 1 |
| Manical Exhaustion . . | . . | 4 | 5 | 1 | 1 | . . | . . | 11 |
| Gen. Paralysis of the Insane . . | 1 | . . | 3 | 3 | 1 | . . | . . | 8 |
| Dysentery . . | . . | 2 | 2 | . . | 1 | . . | . . | 5 |
| Ankylostomiasis . . | 1 | 3 | 4 | 3 | . . | . . | 1 | 12 |
| Pellagra . . . . | . . | 3 | 7 | 4 | 2 | 2 | 1 | 19 |
| Pulmonary Tuberculosis . . | 2 | 6 | 6 | 3 | 2 | 2 | . . | 21 |
| Tuberculosis, other forms . . | . . | 1 | 1 | 2 | . . | . . | . . | 4 |
| Syphilis . . . . | 1 | 1 | 3 | 2 | . . | 2 | . . | 9 |
| Pneumonia . . | . . | . . | . . | 2 | 1 | 1 | 1 | 5 |
| Diseases of the Circulatory System . . | . . | . . | . . | 2 | 2 | 2 | 1 | 7 |
| Diseases of the Urinary System . . | 1 | . . | 1 | 1 | 1 | 1 | . . | 5 |
| Senile Decay . . | . . | . . | . . | . . | . . | . . | 3 | 3 |
| Acute Entero-Colitis . . | . . | . . | . . | 1 | . . | . . | 1 | 2 |
| Intestinal Obstruction . . | . . | . . | . . | 1 | . . | . . | . . | 1 |
| Abscess of Lung . . | . . | . . | . . | 1 | . . | . . | . . | 1 |
| Carcinoma of Liver . . | . . | . . | . . | 1 | . . | . . | . . | 1 |
| Chronic Ulcerative Colitis . | . . | . . | . . | . . | 1 | 2 | . . | 3 |
| Malaria . . . . | . . | . . | . | 1 | . . | . . | . . | 1 |
| Chronic Gastritis . . | . . | . . | 1 | . . | . . | . . | . . | 1 |
| | | | | | | | | 121 |

Table III.—Showing the duration of the Disorder on Admission in the Admissions, Discharges and Deaths during the Calendar Year ended 31st December, 1937.

| Class. | Admission. | | | Discharges. | | | | | | Deaths. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Recovered. | | | Relieved or otherwise. | | | | | |
| | M. | F. | T. | M. | F. | T. | M. | F. | T. | M. | F. | T. |
| *First Class*—First attack, and within 3 months on admission . . . . . . | 165 | 158 | 323 | 25 | 39 | 64 | 5 | 26 | 31 | 43 | 70 | 113 |
| *Second Class*—First attack, above 3 months and within 12 months on admission | 25 | 14 | 39 | 1 | 18 | 19 | . . | 14 | 14 | 3 | 19 | 22 |
| *Third Class*—Not first attack, and within 12 months, etc. . . . . . . | 68 | 78 | 146 | 6 | 8 | 14 | 8 | 5 | 13 | 6 | 17 | 23 |
| *Fourth Class*—First attack or not, but of more than 12 months on admission . . | 25 | 11 | 36 | 1 | . . | 1 | 3 | . . | 3 | 1 | 5 | 6 |
| *Fifth Class*—Congenital . . . . | 14 | 7 | 21 | . . | . . | . . | 3 | . . | 3 | . . | 6 | 6 |
| Unknown . . . . . . | 4 | 3 | 7 | . . | 1 | 1 | . . | . . | . . | 1 | 4 | 5 |
| Total . . . . | 301 | 271 | 572 | 33 | 66 | 99 | 19 | 45 | 64 | 54 | 121 | 175 |

Table IV.—Showing the form of Mental Disorders in the Admissions, Recoveries and Deaths during the year, and the form of Mental Disorders of the Inmates on 31st December, 1937.

| Form of Mental Disorders. | Admissions. | | | Recoveries. | | | Deaths. | | | Remaining in Hospital. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M. | F. | T. | M. | F. | T. | M. | F. | T. | M. | F. | T. |
| I. Congenital or Infantile Mental Deficiency | | | | | | | | | | | | |
| With Epilepsy | 1 | 1 | 2 | 1 | .. | 1 | .. | 1 | 1 | 11 | 7 | 18 |
| Without Epilepsy | 14 | 4 | 18 | 5 | .. | 5 | 2 | 6 | 8 | 11 | 9 | 20 |
| Moral Imbecile | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| II. Insanity occurring later in life— | | | | | | | | | | | | |
| Insanity with Epilepsy | 9 | 4 | 13 | 1 | .. | 1 | 3 | 4 | 7 | 101 | 63 | 164 |
| Epileptic Insanity | 1 | .. | 1 | .. | .. | .. | 7 | .. | 7 | 28 | .. | 28 |
| General Paralysis of Insane | 33 | 5 | 38 | 1 | .. | 1 | 38 | 8 | 46 | 44 | 7 | 51 |
| Insanity with grosser brain lesions | .. | .. | .. | 1 | .. | 1 | 1 | .. | 1 | 3 | .. | 3 |
| Confusional Insanity | 41 | 19 | 60 | 19 | 26 | 45 | 9 | 21 | 30 | 38 | 12 | 50 |
| Mania— | | | | | | | | | | | | |
| Acute | 50 | 68 | 118 | 20 | 37 | 57 | 10 | 20 | 30 | 226 | 241 | 467 |
| Chronic | .. | .. | .. | 3 | 2 | 5 | 9 | 16 | 25 | 346 | 298 | 644 |
| Recurrent | 54 | 71 | 125 | 37 | 30 | 67 | 3 | 2 | 5 | 48 | 118 | 166 |
| Depressive Psychosis | 3 | .. | 3 | .. | .. | .. | .. | 5 | 5 | 3 | .. | 3 |
| Puerperal | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Senile | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Melancholia— | | | | | | | | | | | | |
| Recent | 9 | 2 | 11 | .. | 1 | 1 | 1 | 1 | 2 | 47 | .. | 47 |
| Chronic | .. | .. | .. | .. | .. | .. | 4 | .. | 4 | 1 | .. | 1 |
| Recurrent | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 12 | 12 |
| Alternating Insanity | 2 | 45 | 47 | 10 | 8 | 18 | 15 | 7 | 22 | 6 | 92 | 98 |
| Delusional Insanity | 7 | .. | 7 | 6 | .. | 6 | 7 | .. | 7 | 8 | 12 | 20 |
| Chronic Alcoholic | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Dementia— | | | | | | | | | | | | |
| Senile | 16 | 14 | 30 | .. | .. | .. | 8 | 12 | 20 | 55 | 120 | 175 |
| Secondary or Terminal | 7 | .. | 7 | .. | .. | .. | 3 | 1 | 4 | 9 | .. | 9 |
| Praecox | 49 | 36 | 85 | 14 | 5 | 19 | 13 | 17 | 30 | 58 | 101 | 159 |
| Psychoneurosis | 2 | 2 | 4 | 1 | 2 | 3 | .. | .. | .. | 5 | .. | 5 |
| Psychasthenia | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 2 |
| Unknown | 2 | .. | 2 | .. | .. | .. | 2 | .. | 2 | 4 | .. | 4 |
| Total | 301 | 271 | 572 | 119 | 111 | 230 | 135 | 121 | 256 | 1056 | 1092 | 2148 |

## FINANCIAL STATEMENT.

Table V.—Cost of Maintenance for the Calendar Year, 1937.

| | £ | s. | d. |
|---|---|---|---|
| Salaries | 5,012 | 14 | 10 |
| Wages | 17,832 | 12 | 10 |
| Religious Services | 60 | 0 | 0 |
| Allowance for Shortage | 1 | 11 | 11 |
| Dietary | 15,525 | 4 | 6 |
| Uniform for Nurses and Servants | 707 | 2 | 10 |
| Furniture and Utensils | 538 | 19 | 3 |
| Clothing and Bedding | 1,980 | 14 | 0 |
| Drugs and Medical Appliances | 240 | 14 | 6 |
| Funeral Expenses | 134 | 13 | 2 |
| Travelling Expenses of Discharged Lunatics | 77 | 17 | 10 |
| Farm and Grounds and Repairs | 483 | 5 | 9 |
| Telephones | 91 | 2 | 6 |
| Washing and Sanitary Arrangements | 363 | 16 | 9 |
| Fuel and Lighting | 861 | 9 | 7 |
| Miscellaneous | 282 | 9 | 5 |
| | £44,194 | 9 | 8 |

LESS REIMBURSEMENTS.

| | £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| Contributing Patients | 3,393 | 5 | 7 | | | |
| Miscellaneous Revenue | 117 | 18 | 5½ | 3,511 | 4 | 0½ |
| Net cost to General Revenue | | | | £40,683 | 5 | 7½ |

Return showing Cost per occupied bed for year ended 31.12.37.

| Mental Hospital | Average No. of Beds. | Cost of Staff. | Other Charges. | Total. | Cost per occupied bed per annum. | |
|---|---|---|---|---|---|---|
| | | | | | Staff. | Other Charges. |
| | | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| | 2,089 | 22,905 7 8 | 21,289 2 0 | 44,194 9 8 | 10 19 4 | 10 3 10 |

U. N. Murray,
Acting Medical Superintendent,
Mental Hospital.

(D) Return of Diseases and Deaths in Public General Hospitals (outside Kingston) for 1937.

| Diseases. | Cases Treated. | Deaths. | Out-patients. |
|---|---|---|---|
| Rabies | .. | .. | 25 |
| Chicken Pox | 8 | .. | 20 |
| Diphtheria | 13 | .. | 6 |
| Epidemic Diarrhœa | 14 | 2 | .. |
| Dysentery— | | | |
| (a) Amoebic | 14 | 2 | 5 |
| (b) Bacillary | 4 | .. | 1 |
| (c) Unclassified | 9 | .. | 42 |
| Erysipelas | .. | .. | .. |
| Enteric Fevers | 413 | 105 | 22 |
| Gonococcal Infections | 1,190 | 11 | 3,974 |
| Influenza | 280 | 9 | 1,050 |
| Leprosy | 4 | 1 | 6 |
| Malaria— | | | |
| Tertian<br>Quartan<br>Aestivo-Autumn<br>Cerebral (cachexia)<br>Blackwater<br>Undefined | 2,974 | 114 | 7,347 |
| Measles | 28 | .. | 43 |
| Poliomyelitis | .. | .. | 2 |
| Cerebro-Spinal Meningitis | .. | .. | .. |
| Mumps | 4 | .. | 27 |
| Scarlet Fever | 6 | .. | 3 |
| Soft Chancre | 220 | .. | 322 |
| Syphilis— | | | |
| (a) Primary | 310 | 6 | 2,225 |
| (b) Secondary | 33 | 1 | 2,627 |
| (c) Tertiary | 1,266 | 28 | 3,554 |
| (d) Congenital | 270 | 10 | 697 |
| (e) Period not indicated (unclassified) | 176 | 3 | 514 |
| Septicæmia | 13 | 10 | .. |
| Tuberculosis— | | | |
| Pulmonary | 231 | 34 | 356 |
| Other Forms | 50 | 11 | 66 |
| Tetanus | 44 | 20 | 12 |
| Whooping Cough | 1 | 1 | 61 |
| Yaws | 1,179 | .. | 2,948 |
| Alcoholism | 11 | .. | 9 |
| Anæmias | 109 | 6 | 1,017 |
| Diabetes | 85 | 9 | 95 |
| Pellagra | 36 | .. | 275 |
| Rheumatism— | | | |
| Acute | 460 | .. | 1,326 |
| Chronic | 53 | 1 | 1,015 |
| Rickets | 1 | .. | 10 |
| Scurvy | 2 | 1 | .. |
| Tumours— | | | |
| Malignant | 292 | 32 | 323 |
| Non Malignant | 130 | .. | 151 |
| Diseases of the Ductless Glands | 20 | 3 | 211 |
| Diseases of the Nervous System | 546 | 52 | 1,559 |

| Deases. | Cases Treated. | Deaths. | Out-patients. |
|---|---|---|---|
| Diseases of the Eye | 382 | 2 | 1,567 |
| Do. Ear | 145 | 2 | 596 |
| Do. Circulatory System | 469 | 117 | 1,295 |
| Do. Lympathic System | 251 | 7 | 937 |
| Do. Respiratory System | 1,195 | 150 | 2,342 |
| Do. Digestive System | 4,866 | 127 | 10,312 |
| Do. Spleen | 7 | .. | 84 |
| Do. Breast | 257 | .. | 598 |
| Parasites | 363 | 4 | 958 |
| Diseases of the Genito-Urinary System (Non-Venereal) | 2,795 | 151 | 4,762 |
| Do. Skin and Cellular Tissues | 1,478 | 31 | 4,720 |
| Do. Puerperal State | 826 | 49 | 437 |
| Do. Bones and Organs of Locomotion | 290 | 8 | 951 |
| Malformations | 6 | .. | 10 |
| Diseases of Infancy | 22 | 2 | 253 |
| Diseases of Old Age | 9 | 9 | 66 |
| Poisons | .. | .. | .. |
| Diseases produced by External Causes | 4,458 | 74 | 17,712 |
| Ill-Defined Diseases | 101 | 6 | 333 |
| Other General Diseases | 39 | 5 | 262 |
| No Diseases | .. | .. | .. |
| Malingering | 13 | 1 | 115 |
| Total | 28,471 | 1,216 | 79,656 |

(E) Return of Surgical Operations, Public General Hospitals (excluding Kingston), 1937.

| | Cases. |
|---|---|
| I. Operations upon Female Genital Organs— | |
| Salpingectomy | 229 |
| Draining Pyosalpinx | 16 |
| Oophorectomy | 30 |
| Ovariotomy | 30 |
| Ovarian Cysts | 31 |
| Salpingo-oophorectomy | 105 |
| Broad Ligament Cysts | 5 |
| Myomectomy | 12 |
| Sub-total Hysterectomy | 124 |
| Total Hysterectomy | 55 |
| Caesarian Section | 3 |
| Uterine Suspension | 36 |
| Curettage | 450 |
| Dilatation of Cervix | 42 |
| Extra Uterine Gestation | 30 |
| Repair of Vagina | 12 |
| Excision of Hymen | 1 |
| Excision of labial growths | 9 |
| Hæmatocolpos | 2 |
| Induction of abortion | 2 |
| Pernicorrhaphy | 15 |
| Draining pelvic abscess | 12 |
| Cervical polypus | 7 |
| II. Parturition— | |
| Instrumental Delivery | 56 |
| Cæsarean Section | 4 |
| Craniotomy | 4 |
| Induction of Labour | 18 |
| Retained Placenta | 5 |
| Version | 6 |
| III. Operations on Herniæ— | |
| Radical Cure—Inguinal | 191 |
| Femoral | 4 |
| Strangulated Hernia | 38 |
| Obstructed Hernia | 1 |
| Umbilical Hernia | 12 |
| Ventral Hernia | 12 |
| IV. Operations for Appendicitis— | |
| Appendicectomy | 1,118 |
| Appendix Abscess | 48 |
| V. Operations upon the Stomach and Intestines— | |
| Perforation of gastric ulcer | 4 |
| Perforation of duodenal ulcer | 2 |
| Colostomy | 8 |

| | | Cases. |
|---|---|---|
| | Intestinal obstruction | 28 |
| | Laparotomy | 83 |
| | Gastro-enterostomy | 12 |
| | Intussusception | 7 |
| | Laparotomy for tubercular peritonitis | 7 |
| | Lateral anastomosis | 7 |
| | Resection of Bowels | 1 |
| VI. | Operations on the Bladder— | |
| | Supra pubic cystotomy | 54 |
| | Cystoscopy | 15 |
| | Excision of malignant growth | 11 |
| | Vesical calculis | 7 |
| VII. | Operations upon the Urethra and Penis— | |
| | Dilating urethral stricture | 489 |
| | Circumcisions | 458 |
| | Amputation of penis | 41 |
| | Reduction of para phymosis | 29 |
| VIII. | Operations on the Scrotum and Testicle— | |
| | Radical cure for hydrocele | 89 |
| | Orchidectomy | 15 |
| | Operations for Undescended Testes | 1 |
| IX. | Operations on the Anus and Rectum— | |
| | Anal fistulæ | 14 |
| | Hæmorrhoidectomy | 38 |
| | Dilating rectal stricture | 26 |
| X. | Amputations | 208 |
| XI. | Operations upon the Ear— | |
| | Radical cure for mastoid | 9 |
| | Conservative operation for mastoid | 5 |
| XII. | Operations on the Nose, etc.— | |
| | Removal of Adenoids | 111 |
| | Tonsillectomy | 762 |
| | Nasal Polyp. | 37 |
| | Scraping of Turbinate | 14 |
| XIII. | Tracheotomy | 5 |
| XIV. | Operations on the Thorax— | |
| | Amputation of breast for malignancy | 17 |
| | Adenoma of Breast | 16 |
| | Empyema | |
| XV. | Operations on Tendons— | |
| | Suturing tendons | 75 |
| | Tenotomy | 1 |
| XVI. | Operations on Antrum and Frontal Sinus | .. |
| XVII. | Opthalmic Operations— | |
| | Extraction of cataract | .. |
| | Needling cataract | .. |
| | Enucleation of eyeball | 37 |
| | Iridectomy | 5 |
| | Meibomian cysts | 22 |
| | Pterygium | 16 |
| | Lachrymal apparatus | .. |
| XVIII. | Operations on Affections of Bones— | |
| | Osteomyelitis | 30 |
| | Sequestrotomy | 53 |
| | Resection of Rib | 4 |
| XIX. | Dislocations | 77 |
| | Plaster of Paris | 42 |
| XX. | Fracture of Bones— | |
| | Plating Femur | 71 |
| | Wiring fractures | 157 |
| | Depressed fracture of frontal bone | 14 |
| | Depressed fracture of molar bone | 5 |
| | Open operation of molar bone | 2 |
| XXI. | Excision of Glands— | |
| | Cervical | 7 |
| | Axillary | 1 |
| | Inguinal | 126 |
| XXII. | Operations upon the Thyroid Gland | 12 |
| | Thyroidectomy | 2 |
| XXIII. | Operations upon the Liver and Gall Bladder— | |
| | Laparotomy for ruptured liver | .. |
| | Draining gall bladder | 3 |

| | | Cases. |
|---|---|---|
| XXIV. | Incision of Abscess | 1,276 |
| | Suturing wounds | 781 |
| | Removal of foreign bodies (bullets, needles, etc.) | 145 |
| | Examinations | 57 |
| | Scraping Ulcers | 146 |
| | Dental extractions | 773 |
| | Excision of ganglion | 1 |
| | Excision of toe nail | 130 |
| | Excision of lipoma | 20 |
| | Excision of keloids | 13 |
| | Excision of epulis | 2 |
| | Breaking down adhesions | 35 |
| | Skin graft | 28 |
| | Excision of tubercular glands | 5 |
| | Excision of Bursæ | 1 |
| | Excision of Carbuncle | 31 |
| | Amputation of supernumerary digits | 23 |
| | Sebaceous Cysts | 30 |
| | Operations for Hare lip | 4 |
| | Plastic operations for contractures of arm | 4 |
| | Bronchoscopy | 8 |
| | Sigmoidoscopy | .. |
| | Trephining for cerebral compression | 8 |
| | Excision of fibroma | 19 |
| | Cauterisation of warts, sinuses, etc. | 49 |
| | Closing pneumo-thorax | 58 |
| XXV. | Mescellaneous | 345 |
| | Neurectomy | 2 |
| | Phrecetomy | 3 |
| | Paracentesis | 12 |
| | Acupuncture | 14 |
| | Operation for Steinachs | 8 |
| XXVI. | Other Minor operations | 557 |
| | Total | 10,755 |

## (F) *Report of the Medical Superintendent of the Lepers' Home.*

At the beginning of the year there were 95 men and 74 women in the Institution. At the end of the year there were 85 men and 80 women—a total decrease of 4.

There were 22 admissions during the year—9 males and 13 females. 12 inmates were discharged—7 were males and 5 females.

There were 14 deaths—12 males and 2 females. The death rate per 1,000 based on the daily average number of inmates in the home was approximately 83.7. The daily average number of inmates was 164.27 as against 155.44 for 1936.

The general health of the inmates was satisfactorily maintained. The incidence of intercurrent disorders aside from seasonal attacks of malaria, was not specially marked at any time of the year.

The wards are still over-crowded especially on the female side.

Treatment was carried out chiefly by the oral administration of preparations of Chaulmoogra oil. Treatment by injections was intermittently carried out. The majority of inmates refused altogether to have treatment by this method and even those who submitted attended so irregularly, that it was difficult to estimate the relative value of this method of treatment.

The Staff consists of:—

1. Medical Superintendent.
2. Matron.
3. 4 Nurses—3 untrained, 1 partly trained.
4. 2 Cooks.
5. 1 Messenger.

Religious ministrations were attended to regularly by the Anglican and Roman Catholic denominations, also by the Salvation Army and representatives of the Seventh Day Adventists. Mr. Norman Crayford, who has done social service work among Lepers in Nigeria under the Aegis of Toc H and the British Empire Leprosy Association, started similar work here on the 14th September. He has submitted a report to Government with suggestions for fostering and promoting the welfare of the inmates, and is helping to formulate plans for extending and remodelling the Institution.

Recreation: Cricket, tennis, table tennis, croquet, dominoes and draughts are the principal games engaged in. The tennis court was completed and opened by the Director of Medical Services on Christmas Eve. The gift of a Radio-phonograph with loud speakers set up in the male and female compounds respectively, has helped to gladden the hearts of the inmates, and is a constant source of pleasurable entertainment from day to day.

Several musical instruments were added to the Band during the year. The Band now consists of seven pieces.

Occupation: Agricultural work on the Farm was constantly carried out during the year. There are 36 plots under cultivation. In the plan for re-organization, it is proposed to acquire additional lands for the purpose of extending the farm so that this kind of helpful and healthful occupation may be made more available to a greater number of inmates, who are physically able to undertake this kind of work.

The general sanitary work, such as cleaning drains, white-washing, weeding, bushing, sweeping the compounds, is apportioned among the inmates themselves, for which they receive small monetary consideration.

The discipline of the Home was satisfactorily maintained. Breaches of discipline are relatively infrequent and no drastic punitive measures had to be employed.

The buildings still present an unsatisfactory appearance, but they have been maintained in a fair state of repair. The method of sewerage disposal—the bucket system— should be abandoned. Some reconstruction work in connection with the concrete drains was carried out during the year, and repairs were effected to the quarters occupied by the Superintendent.

H. H. Blair,
Medical Attendant, Lepers' Home.

## VI.—PRISONS.

### *Reports of the Medical Officers of Prisons.*

### General Penitentiary, Kingston.

During the year the sanitary condition of the Prison was maintained in a satisfactory manner.

The general health of the prisoners on a whole was good.

The principal disease occurring during the year was Influenza.

It is very satisfactory to note that only one case of Amoebic Dysentery was seen for the year.

Return of Medical Statistics for the General Penitentiary, Kingston, for the year ended 31st December, 1937.

| | |
|---|---|
| Number in custody 1.1.37 | 623 |
| Admitted during the year | 1,017 |
| Discharged during the year | 1,004 |
| Daily average in custody | 619 |
| Removal to Lunatic Asylum | 2 |
| Removal on medical grounds | . . |
| Greatest number in custody one day | 662 |
| Remaining in hospital 1.1.37 | 36 |
| Admitted to Hospital during the year | 456 |
| Discharged from Hospital during the year | 468 |
| Daily Average | 32 |
| Greatest number in hospital one day | 87 |
| Total treated in hospital during the year | 492 |
| Number of deaths | 3 |
| Out-patients treated—new cases | 5,926 |
| total attendances | 13,726 |
| Minor Operations | 30 |
| Khan Test 376 Positive | 169 |
| M.P. 376 Positive | 5 |
| Stool for Ova 376 Positive | 316 |
| Vaccinations performed | 463 |
| N. A. B. injections | 222 |
| Bismuth injections | 327 |
| Examinations of applicants for Service | 6 |
| Attendances on members of staff and family | 387 |
| Visits to staff in quarters or private homes | 87 |

R. H. Davidson,
Surgeon.

### St. Catherine District Prison.

*State of Prison.*—The sanitary condition of all buildings and compounds was satisfactorily maintained.

*Health of Prisoners.*—There were no deaths during the year from natural causes.

There were seven executions by hanging for the crime of murder, carried out in conformity with the provisions of the law; in each case death resulted from dislocation of the cervical vertebrae.

850 cases were treated in hospital. The daily average number of sick in hospital was 30.64.

3,099 prisoners entered the Prison during the year. Of these 190 were admitted in impaired state of health.

The general health of the members of the staff was satisfactory. In all, 66 officers reported sick during the year and were treated, the chief cause of illness being as usual Malaria Fever.

Mr. W. C. Campbell who occupied the position of Dispenser here for about fifteen years was transferred to the Spanish Town Hospital, and Mr. V. F. Watson appointed in his stead.

A return is appended in which other statistical data are to be found.

Return showing the following for the year ended 31st December, 1937.

| | |
|---|---|
| (a) Mortality from executions | 7 |
| (b) Mortality from natural causes | nil |
| Insanity | 7 |
| Cases treated among prisoners in hospital | 850 |
| Number in custody 31st December 1937 | 592 |
| Received into Prison | 3,099 |
| Daily average in custody | 563 |
| Death per 1,000, calculated on the daily average | nil |
| Cases treated in Prison | 2,440 |
| Greatest number in custody any one day | 668 |
| Discharged | 3,142 |
| Number of officers reported sick | 66 |
| Number of prisoners received in feeble health | 190 |
| Number of prisoners discharged in feeble health | 19 |
| Daily average sick in hospital | 30.64 |
| Daily average of sick treated outside hospital | 75 |
| Greatest number of sick in hospital any one day | 38 |
| Greatest number of sick treated outside hospital any one day | 99 |
| Number of cases treated outside hospital | 1,590 |
| No. of blood specimens sent to Bacteriologist for Khan test | 193 |
| No. of blood specimens showing positive Khan | 128 |
| No. of blood specimens sent to Bacteriologist for Malaria test | 29 |
| No. of blood spedimens showing M.P. present | 1 |
| No. of stool specimens sent to Bacteriologist for Hookworm test | 292 |
| No. of stool specimens showing Ova present | 196 |
| No. of specimens sent to Bacteriologist for Widal test | 1 |
| No. of specimens showing positive Widal | 1 |
| No. of specimens of sputum sent to Bacteriologist for Tuberculosis | 14 |
| No. of specimens of sputum showing positive T.B. present | Nil |
| No. of surgical operations performed | 96 |
| No. of salvarsan injections given | 556 |
| No. of Bismuth Salicyl injections given | 140 |
| No. of Officers retired from the Service | 3 |
| No. of Officers passed medically unfit | 1 |

H. H. Blair,
Medical Officer.

## Stony Hill Industrial School.

304 cases were treated in Hospital, the following being a recapitulation of the diseases most frequently admitted for attention:—

| | |
|---|---|
| Infectious Diseases—Influenza | 87 |
| Venereal Diseases | 5 |
| Measles | 4 |
| Affections of the Eye—Conjunctivitis | 8 |
| Affections of the Circulatory System— | |
| Valvular Heart Disease | 3 |
| Lymphadenitis, Bubo (non-specific) | 2 |
| Diseases of the Digestive System— | |
| Ankylostomiasis | 48 |
| Other Intestinal Parasites | 25 |
| Indigestion | 8 |
| Tonsilitis | 6 |
| Affection of the Skin and Cellular Tissues— | |
| Ulcers | 43 |
| Abscesses, etc. | 10 |
| Diseases of Joints—Synovitis | 4 |
| Affections produced by External Causes— | |
| Wounds and other external injuries | 24 |
| Fractures | 2 |

23,742 out-patient dressings were done.

34 minor operations were performed and 162 injections of Neoarsphenamine and Bismuth were given.

There were no epidemics.

One death occurred—from Lobar Pneumonia.

The general health of the School was on the whole quite satisfactory.

Regarding the sanitation of the Institution it is to be hoped that when the new water supply has been installed the method of house sanitation and sewage disposal, which is at present by the bucket system, will be quickly discarded for the more modern and hygienic method.

During the quarter, July to September, the fæces of 203 inmates of the School were bacteriologically examined for intestinal parasites and treatment carried out on those who were found infested. 88% were discovered to have intestinal parasites of one kind or another, while 62½% were found to be infected with Ankylostomiasis.

It is to be noted that a routine examination is always done of the faeces of all new inmates and appropriate treatment instituted in all positive cases.

E. S. Greaves,
Medical Officer.

## Return of Diseases and Deaths, 1937. (Prisons).

| Diseases. | General Penitentiary. | | | St. Catherine District Prison. | | | Industrial School Stony Hill. | | |
|---|---|---|---|---|---|---|---|---|---|
| | In-Patients. | Deaths. | Out-Patients. | In-Patients. | Deaths. | Out-Patients. | In-Patients. | Deaths. | Out-Patients. |
| Enteric Fever | .. | .. | .. | 1 | .. | .. | .. | .. | .. |
| Malaria | 60 | .. | 756 | 301 | .. | 135 | .. | .. | .. |
| Yaws | 1 | .. | 1 | 6 | .. | 20 | 1 | .. | .. |
| Tuberculosis—Pulmonary | .. | .. | .. | 2 | .. | .. | .. | .. | .. |
| Do. of other Organs | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Influenza | 97 | .. | 2,310 | 1 | .. | .. | 87 | .. | .. |
| Measles | .. | .. | .. | .. | .. | .. | 4 | .. | .. |
| Chicken Pox | .. | .. | .. | .. | .. | 3 | .. | .. | .. |
| Diarrhœa | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| Dysentery | 2 | .. | .. | .. | .. | .. | .. | .. | .. |
| Mumps | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Soft Chancre | .. | .. | 4 | 10 | .. | 9 | .. | .. | .. |
| Diabetes | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| Syphilis | 6 | .. | 269 | 86 | .. | 66 | 2 | .. | .. |
| Gonorrhœa | 1 | .. | 111 | 9 | .. | 92 | 3 | .. | .. |
| Septicæmia | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cancer | .. | .. | .. | 1 | .. | .. | .. | .. | .. |
| Tumours, non malignant | .. | .. | 1 | 4 | .. | 1 | ... | .. | .. |
| Rheumatism, Acute | 4 | .. | 51 | .. | .. | 11 | .. | .. | .. |
| Rheumatism, Chronic | .. | .. | .. | 1 | .. | 5 | .. | .. | .. |
| Lumbago | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Leprosy | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Scurvy | 10 | .. | 37 | .. | .. | .. | .. | .. | .. |
| Pellagra | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Anæmia | 2 | .. | 29 | 7 | .. | 13 | .. | .. | .. |
| Ankylostomiasis | .. | .. | 314 | 60 | .. | 147 | 48 | .. | .. |
| Appendicitis | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Hernia | .. | .. | 27 | 2 | .. | 11 | .. | .. | .. |
| Affections of Nervous System | 29 | 1 | 225 | 31 | .. | 51 | 9 | .. | .. |
| Affections of Circulatory System | 12 | 1 | 231 | 43 | .. | 20 | 5 | .. | .. |
| Affections of Respiratory System | 25 | .. | 43 | 12 | .. | 22 | 3 | 1 | .. |
| Affections of Skin and Cellular Tissues | 51 | .. | 1,318 | 94 | .. | 216 | 57 | .. | .. |
| Affections of Ductless Glands | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Diseases of the Digestive System | 55 | 1 | 6,642 | 65 | .. | 399 | 21 | .. | .. |
| Diseases of the Genito-Urinary System | 14 | .. | 238 | 42 | .. | 30 | 2 | .. | .. |
| Diseases of the Puerperal State | 3 | .. | 1 | .. | .. | .. | .. | .. | .. |
| Diseases of the Bones and Organs of locomotion | 13 | .. | 62 | 4 | .. | 2 | 7 | .. | .. |
| Affections produced by external causes | 29 | .. | 937 | 57 | .. | 228 | 29 | .. | .. |
| Ill-defined diseases | 3 | .. | 21 | .. | .. | .. | .. | .. | .. |
| Diseases of Infancy | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Diseases of Old Age | 4 | .. | 14 | 1 | .. | 9 | .. | .. | .. |
| No Disease | 69 | .. | .. | .. | .. | .. | .. | .. | .. |
| Parasites | .. | .. | 67 | .. | .. | .. | 25 | .. | .. |
| Malingering | .. | .. | .. | 10 | .. | 10 | 3 | .. | .. |
| | 438 | 3 | 13,709 | 850 | .. | 1,500 | 306 | 1 | .. |

## VII.—SCIENTIFIC.

### *Report of the Bacteriological and Pathological Laboratory.*

*Administration.*—During the year there was the much needed addition of 1 Senior and I Junior Laboratory Assistant to the staff. Further increases are, however, still urgently necessary.

Dr. L. E. Arnold, Messrs. S. M. Dailey, H. O. Fox and H. C. Berry were on leave during the year.

Messrs. Elliott, Cardoza and Brown were transferred to other departments, their places being taken by Messrs. A. C. Perkins, T. U. Glasspole and C. G. Earle.

Mr. S. M. Dailey, Chief Laboratory Assistant, was given the Coronation Medal after nearly thirty years of service.

The Bacteriologist was in charge of the Venereal Diseases work, in addition to his substantive position until the end of December.

### GENERAL.

The work of the Laboratory has again increased to a new height of 71,701 specimens; this does not include 18,651 larval examinations. This is an increase of 25% over the total of 57,950 specimens in the previous year.

*Serology of Syphilis* showed an increase of 30% to 30,518 specimens, over 1936 figures. This, and the 60% increase in examinations for gonococci, are attributable to the work of the Venereal Diseases Clinics. Fortunately, the largest of the clinics, in Kingston, has its own laboratory and took over these examinations during the last quarter of the year.

*Malarial and Enteric Diseases.*—Examinations showed a decrease from 6,862 to 5,909 specimens for the former, and from 4,972 to 2,596 specimens for the latter disease. This was mainly due to the absence of any sizeable outbreaks of these diseases. The absence of these diseases during the year is further manifest in the low percentage of positive findings in both examinations. There were only 13.6% of specimens containing malarial parasites and 30% positive reactions in the Enteric Diseases agglutination

*Stool Examinations* showed an increase of 20% to 5,079 specimens. Of these, 3,528 were for helminth with a high positivity of 63.9% more than half of which were ankylostomes.

*Miscellaneous.*—Much of the increase of work has been due to time-consuming examinations—Blood Counts, Blood Ureas, examinations for tuberculosis and leprosy, and 100% increase in the number of gastric analyses.

There was slightly less Typhoid Vaccine prepared than during 1936, 36,000cc. compared to 38,000cc. 83,420cc of sterile milk was prepared.

Telegraphic reports of typhoid and malarial examinations were sent—1,355 telegrams for the year.

Origin of Specimens.
Table I.

| | 1933. | 1934. | 1935. | 1936. | 1937. |
|---|---|---|---|---|---|
| Kingston Public Hospital | 10,099 | 19,259 | 22,634 | 20,064 | 19,073 |
| Mental Hospital .. | 601 | 967 | 1,530 | 1,642 | 2,358 |
| Other Institutions | 1,926 | 1,826 | 5,133 | 19,792 | 30,825 |
| Country Medical Districts | 1,018 | 1,783 | 3,871 | 7,527 | 10,312 |
| Health Officers .. | 739 | 2,709 | 3,440 | 4,241 | 2,824 |
| Private Practitioners | 716 | 835 | 2,958 | 4,684 | 6,309 |
| | 15,099 | 27,379 | 39,566 | 57,950 | 71,701 |

Distribution of Specimens.
Table II.

| | 1933 | 1934 | 1935 | 1936 | 1937 |
|---|---|---|---|---|---|
| Autogenous Vaccines | 61 | 47 | 52 | 35 | 32 |
| Autopsies .. | 114 | 148 | 141 | 118 | 139 |
| Blood Examinations— | | | | | |
| Counts .. | 251 | 350 | 415 | 738 | 919 |
| Differential on Malaria slides | .. | .. | .. | .. | 3,636 |
| Cultures | 14 | 25 | 17 | 39 | 23 |
| Parasites (Malaria Commission) | .. | 615 | 1,508 | 1,200 | 582 |
| Parasites | 280 | 1,635 | 2,970 | 5,662 | 4,327 |
| Sugars .. | 517 | 606 | 846 | 862 | 834 |
| Ureas .. | 38 | 88 | 115 | 182 | 220 |
| Examination of Faeces— | | | | | |
| Helminths .. | 691 | 893 | 1,638 | 2,709 | 3,528 |
| Amœbæ .. | 388 | 669 | 831 | 1,016 | 1,124 |
| B. Dysenteriæ | 117 | 200 | 363 | 312 | 319 |
| Miscellaneous .. | 59 | 40 | 51 | 184 | 108 |
| Examinations for Gonococci | 151 | 202 | 435 | 5,333 | 8,560 |

| | 1933 | 1934 | 1935 | 1936 | 1837 |
|---|---|---|---|---|---|
| Examinations for B. Lepra | (small nos. "Unclass. Exms") | | | 180 | 335 |
| Examinations for B. Tuberculosis .. | 422 | 464 | 957 | 1,341 | 1,919 |
| Gastric Analyses .. | 16 | 38 | 20 | 39 | 80 |
| Medico-legal examinations | 121 | 202 | 241 | 409 | 325 |
| Milk examinations | .. | 28 | 46 | 76 | 9 |
| Morbid Histology | 85 | 127 | 142 | 227 | 276 |
| Persons vaccinated | 139 | 119 | 106 | 108 | 73 |
| Serology of Syphilis | 5,610 | 8,842 | 15,366 | 23,621 | 30,518 |
| Serology of Enteric Diseases | 1,477 | 2,526 | 4,869 | 4,972 | 2,596 |
| Throat Swabs .. | 102 | 122 | 50 | 135 | 265 |
| Typhoid Vaccine prepared | 1,294 | 1,146 | 1,125 | 1,907 | 1,800 |
| Unclassified Examinations | 204 | 86 | 459 | 186 | 130 |
| Urinalyses .. | 2,275 | 5,994 | 5,169 | 5,415 | 8,185 |
| Van Den Bergh Reaction | (small nos. "Unclass. Exms.") | | | .. | 66 |
| Water Examinations | 664 | 742 | 780 | 944 | 773 |
| | 15,099 | 27,379 | 39,566 | 57,950 | 71,701 |

## Table IIa.—Results of Examinations.

| Examination. | | Kingston Public Hospital. | Lunatic Asylum. | Other Institutions. | Country Medical Districts. | Health Officers. | Private Practitioners. | Total. |
|---|---|---|---|---|---|---|---|---|
| Autogenous Vaccines | . . | 32 | . . | . . | . . | . . | . . | 32 |
| Typhoid Vaccine | . . | . . | . . | 1,800 | . . | . . | . . | 1,800 |
| Blood Examinations— | | | | | | | | |
| Counts | . . | 729 | 2 | 69 | 20 | 7 | 92 | 919 |
| Differential on Malaria Slides | . . | 1,188 | 356 | 405 | 972 | 131 | 584 | 3,636 |
| Cultures | . . | 8 | . . | 10 | 1 | 1 | 3 | 23 |
| Malarial Parasites | + | 212 | 31 | 13 | 299 | 158 | 92 | 805 |
| Malarial Parasites | — | 1,188 | 356 | 405 | 972 | 599 | 584 | 4,104 |
| Sugars | . . | 755 | 1 | 10 | 24 | 6 | 38 | 834 |
| Ureas . . | . . | 195 | 2 | 15 | 3 | . . | 5 | 220 |
| Examination of Fæces— | | | | | | | | |
| Ankylostome | + | 166 | 208 | 500 | 260 | 133 | 45 | 1,312 |
| Ascaris | + | 24 | 26 | 38 | 47 | 72 | . . | 207 |
| Trichocephalus | + | 163 | 136 | 165 | 153 | 83 | 34 | 734 |
| Helminths | — | 509 | 174 | 160 | 207 | 98 | 127 | 1,275 |
| Amœbæ | + | 93 | 55 | 4 | 7 | 4 | 20 | 183 |
| Amœbæ | — | 446 | 290 | 27 | 68 | 15 | 95 | 941 |
| B. dysenteriæ | + | | | | | | | |
| B. dysenteriæ | — | 24 | 225 | 4 | 12 | 4 | 50 | 319 |
| Miscellaneous | . . | 82 | 1 | . . | 9 | 2 | 14 | 108 |
| Examinations for Gonococci— | | | | | | | | |
| Gonococci | + | 61 | 1 | 5,058 | 32 | 1 | 91 | 5,244 |
| Gonococci | — | 183 | 6 | 2,339 | 155 | 3 | 435 | 3,121 |
| Gram. Negative Diplococci | . . | 38 | 1 | 100 | 18 | 1 | 37 | 195 |
| Examinations for B. Lepra — | | | | | | | | |
| B. Lepra | + | 1 | . . | 180 | 1 | 16 | 1 | 199 |
| B. Lepra | — | 9 | . . | 97 | 6 | 21 | 3 | 136 |
| Examinations for B. tuberculosis— | | | | | | | | |
| B. tuberculosis | + | 44 | 4 | 80 | 163 | 110 | 48 | 449 |
| B. tuberculosis | — | 341 | 24 | 366 | 401 | 209 | 129 | 1,470 |
| Medico Legal Examinations— | | | | | | | | |
| Blood | + | . . | . . | 115 | . . | . . | . . | 115 |
| Blood | — | . . | . . | 61 | . . | . . | . . | 61 |
| Human Blood Examinations | . . | . . | . . | 51 | . . | . . | . . | 51 |
| Semen | + | . . | . . | 19 | . . | . . | . . | 19 |
| Semen | — | . . | . . | 79 | . . | . . | . . | 79 |
| Milk Examinations | . . | . . | . . | . . | . . | 9 | . . | 9 |
| Morbid Histology | . . | 111 | 2 | 6 | 122 | . . | 35 | 276 |
| Serological Examinations— | | | | | | | | |
| Kahn Precipitation: | + | 2,380 | 190 | 6,142 | 2,081 | 126 | 991 | 11 910 |
| | — | 3,287 | 229 | 8,674 | 2,578 | 204 | 1,990 | 16,962 |
| Doubtful | + | 200 | 9 | 655 | 138 | 7 | 122 | 1,131 |
| Contaminated | . . | 1 | 1 | 78 | 283 | 8 | 86 | 457 |
| Spinal Fluids | . . | 45 | 1 | . . | 11 | . . | 1 | 58 |
| Widal Reaction: | | | | | | | | |
| B. typhosus (T1/500 1/250, 1/125) | . . | 185 | 9 | 63 | 319 | 38 | 48 | 662 |
| B. typhosus | — | 758 | 7 | 14 | 512 | 29 | 130 | 1,450 |
| B. typhosus (Doubtful T1/50) | | 185 | 6 | 4 | 190 | 22 | 61 | 468 |
| B. paratyphosus A | + | . . | . . | . . | . . | 1 | . . | 1 |
| B. paratyphosus A | — | . . | . . | . . | . . | . . | 1 | 1 |
| B. paratyphosus B | + | . . | . . | . . | . . | 3 | . | 3 |
| B. paratyphosus | | | | | | | | |

| Examination. | Kingston Public Hospital. | Lunatic Asylum. | Other Institutions. | Country Medical Districts. | Heath Officers. | Private Practitioners. | Total. |
|---|---|---|---|---|---|---|---|
| B. − | .. | .. | .. | .. | 4 | 1 | 5 |
| Br. Abortus + | .. | .. | .. | .. | .. | 1 | 1 |
| B. Dysenteriæ (Flex. X) + | .. | .. | .. | .. | 1 | .. | 1 |
| B. Dysenteriæ (Flex. Y) + | .. | .. | .. | .. | 4 | .. | 4 |
| Vanden Bergh Reaction .. | 64 | .. | .. | 2 | .. | .. | 66 |
| Stomach Contents—Test Meal .. | 78 | .. | .. | .. | .. | 2 | 80 |
| Throat Swabs— | | | | | | | |
| Diphtheria + | 17 | .. | 1 | 2 | 7 | 1 | 28 |
| Diphtheria − | 70 | .. | 1 | 7 | 36 | 21 | 135 |
| Streptococci + | 40 | .. | .. | 7 | 29 | 11 | 87 |
| Vincent's Angina + | 3 | .. | 1 | .. | .. | 1 | 5 |
| Vincent's Angina − | 9 | .. | .. | .. | .. | 1 | 10 |
| Unclassified Examinations .. | 69 | 4 | 15 | 21 | 2 | 19 | 130 |
| Urine Examinations— | | | | | | | |
| Chemical Qualitative .. | 3,301 | 1 | 1,554 | 129 | 14 | 153 | 5,152 |
| Chemical Quantitative .. | 298 | .. | 12 | 3 | .. | 5 | 318 |
| Bacteriological .. | 1,268 | .. | 1,263 | 76 | 4 | 98 | 2,709 |
| Cultural .. | 1 | | 1 | 1 | .. | 3 | 6 |
| Water Examinations— | | | Water Board | | | | |
| Filtered: | | | | | | | |
| Positive .. | .. | .. | .. | .. | .. | .. | .. |
| Doubtful .. | .. | .. | .. | .. | 1 | .. | 1 |
| Negative .. | .. | .. | .. | .. | 2 | .. | 2 |
| Filtered Chlorinated: | | | | | | | |
| Positive .. | .. | .. | 1 | .. | 26 | .. | 27 |
| Doubtful .. | .. | .. | 57 | .. | 264 | .. | 321 |
| Negative .. | .. | .. | 77 | .. | 166 | .. | 243 |
| Unfiltered: | | | | | | | |
| Positive .. | .. | .. | .. | .. | 33 | .. | 33 |
| Doubtful .. | .. | .. | .. | .. | 15 | .. | 15 |
| Negative .. | .. | .. | .. | .. | 1 | .. | 1 |
| Unfiltered Chlorinated | | | | | | | |
| Positive .. | .. | .. | .. | .. | 36 | .. | 36 |
| Doubtful .. | .. | .. | 1 | .. | 46 | .. | 47 |
| Negative .. | .. | .. | 35 | .. | 12 | .. | 47 |

Table III.—Autopsies.

| | Ordered for Coroner. | Requested by M.O's. of Hospitals. | Total. |
|---|---|---|---|
| *General Diseases*— | | | |
| (1) Syphilis (Congenital, Acquired) .. | 1 | 7 | 8 |
| (2) Enteric Fever .. .. .. | .. | 1 | 1 |
| (3) Meningitis (Cerebro-spinal Tuberculosis) .. | .. | 4 | 4 |
| (4) Diphtheria .. .. .. | .. | 1 | 1 |
| (5) Malaria Fever .. .. .. | .. | 2 | 2 |
| (6) Diabetes Mellitus .. .. .. | 2 | .. | 2 |
| (7) Jaundice (Haemolytic) .. .. | .. | 1 | 1 |
| (8) Leukaemia (Lymphoid, Myeloid) .. | .. | 3 | 3 |
| (9) Anaemia-severe .. .. .. | .. | 1 | 1 |
| (10) Ascariasis .. .. .. | .. | 1 | 1 |
| | 3 | 21 | 24 |
| *Injuries*— | | | |
| (1) Burns (Shock, sepsis, Broncho-pneumonia) .. | 7 | .. | 7 |
| (2) Bones (fractures, hæmorrhage, sepsis, shock cardia-failure) .. .. .. | 6 | .. | 6 |

| | Ordered for Coroner. | Requested by M.O's. of Hospitals. | Total. |
|---|---|---|---|
| (3) Skull (fracture, hæmorrhage, shock, bullet, wounds, meningitis) | 18 | .. | 18 |
| (4) Injury to Liver | 1 | .. | 1 |
| (5) Injury to Kidney — Stab and bullet wounds | 2 | .. | 2 |
| (6) Injury to Spleen | 1 | .. | 1 |
| (7) Injury to Intestines | 2 | .. | 2 |
| (8) Spinal Injuries (fractures, dislocations, hæmorrhage) | 1 | .. | 1 |
| (9) Laceration of arteries and veins (shock, hæmorrhage) | 1 | .. | 1 |
| (10) Poisoning (Cresol, Arsenic, Phosphorus, Vegetable Poisons) | 6 | .. | 6 |
| (11) Laceration of muscles (multiple hæmorrhage, shock, septicæmia) | 3 | .. | 3 |
| (12) Drowning | 1 | .. | 1 |
| | 52 | 21 | 73 |
| *Diseases of Brain and Meninges*— | | | |
| (1) Vascular (Hæmorrhages, syphilis, tumours) | 3 | 2 | 5 |
| (2) Convulsions | .. | 1 | 1 |
| *Diseases of Circulatory System*— | | | |
| (1) Aneurysms (Aorta, Femoral) | .. | 1 | 1 |
| (2) Cardiac failure (Coronary disease, myocarditis, syphilis, acture dilation, valvular insufficiences) | 2 | 7 | 9 |
| (3) Toxæmia (ill defined) | 1 | 1 | 2 |
| | 58 | 33 | 91 |
| *Diseases of Respiratory System*— | | | |
| (1) Pulmonary Tuberculosis | 1 | 3 | 4 |
| (2) Lobar pneumonia | .. | 1 | 1 |
| (3) Broncho-pneumonia | .. | 2 | 2 |
| | 59 | 39 | 98 |
| *Diseases of Renal Excretory System*— | | | |
| (1) Chronic Nephritis | .. | 4 | 4 |
| (2) Uræmia | .. | 1 | 1 |
| (3) Acute hæmorrhagic nephritis | .. | 1 | 1 |
| | 59 | 45 | 104 |
| *Diseases of Digestive System*— | | | |
| (1) Liver (abscess, toxic degeneration, cirrhosis, acute yellow atrophy) | .. | 7 | 7 |
| (2) Gastro enteritis | .. | 1 | 1 |
| (3) Pancreatitis (hæmorrhagic, etc.) | .. | 1 | 1 |
| (4) Gastric Ulcer (perforated) | .. | 2 | 2 |
| (5) Peritonitis (Tuberculous) | .. | 1 | 1 |
| (6) Intestinal obstruction (Volvulus, intussusception, hernia, adhesions) | .. | 10 | 10 |
| (7) Dysentery (Bacillary) | .. | 1 | 1 |
| (8) Mesenteric thrombosis | 1 | .. | 1 |
| (9) Appendcitis | .. | 3 | 3 |
| | 60 | 71 | 131 |
| *Diseases of Reproductive System*— | | | |
| (1) Oopharo salphingitis (peritonitis) | .. | 2 | 2 |
| | 60 | 73 | 133 |
| *Neoplasms*— | | | |
| (1) Carcinoma (liver, stomach, rectum, duodenum, œsophagus) | .. | 4 | 4 |
| (2) Lymphosarcoma (mediastium) | .. | 1 | 1 |
| | 60 | 78 | 138 |

### Table IV.—Morbid Histology.

| | |
|---|---|
| (1) *Tumours*— | |
| (a) Benign: | |
| Adenoma | 2 |
| Condyloma | 2 |
| Cysts | 9 |
| Fibroadenoma (inc. Fibroma, Fibromyoma) | 22 |
| Papilloma | 2 |
| Hodgkins | 4 |
| | 41 |
| (b) "Borderline" (Locally Malignant): | |
| Osteoclastoma | 3 |
| "Basal-celled" Carcinoma (Rodent Ulcer) | 3 |
| | 47 |
| (c) Malignant: | |
| Carcinoma | 39 |
| Epithelioma | 7 |
| Sarcoma (other) | 5 |
| | 98 |
| (2) *Inflammatory, etc.*— | |
| Degenerations | 10 |
| Inflammatory (not inc. Tbs. and Syph.) | 75 |
| Tuberculosis | 12 |
| Syphilis | 10 |
| Malarial Tissues | 3 |
| Toxic poisoning (including ackee) Pancreas, kidney, liver, spleen | 26 |
| | 234 |
| (3) *Normal Tissues* | 42 |
| | 276 |

### Table V.—Preparation of Media.

| Media. | Quantity. |
|---|---|
| Broth for Waters | 300,000 ml |
| Nutrient Agar | 90,000 ml |
| Loeffler's Medium | 2,000 ml |
| Ascitic Fluid Agar | 2,000 ml |
| Blood Agar | 4,000 ml |
| Bile Broth | 2,000 ml |
| 20% Lactose | 8,000 ml |
| 20% Lactose 2% Dextrose | 900 ml |
| Russell's Triple Sugar Agar | 4,000 ml |
| 1% Carbohydrate Agar | 4,000 ml |
| Brilliant Green Agar | 8,000 ml |
| Eosin Methylene Blue Agar | 3,000 ml |
| Peptone Water | 900 ml |
| Beef Extract Agar Semi Solid Sugar free | 4,000 ml |
| Beef Extract Broth | 3,000 ml |
| 1% Sugar Broth | 1,500 ml |

K. Leigh Evans,
Government Bacteriologist and Pathologist.

## VIII.—VENEREAL DISEASES.

### *Report of the Venereal Diseases Clinics,* 1937.

The year was marked by rapid development of the special clinics for Venereal Diseases. Clinics for men and women were opened in Montego Bay, in July, and in Port Antonio on the 1st October in rented buildings. The new building in Kingston on Highholborn Street, constructed through the generosity of the Colonial Development Fund, was occupied in mid-September.

*Administration.*—At the end of the year the staff consisted of— 1 Venereal Diseases Officer.

Kingston: 2 Part-time Medical Officers, 5 Nurses, 5 Orderlies, 1 Technician.
Montego Bay: 1 Part-time Medical Officer, 2 Nurses, 2 Orderlies.
Port Antonio: 1 Part-time Medical Officer, 1 Nurse, 1 Orderly.

The Staff was found insufficient and increases have been approved for the three clinics.

## General.

There were 14,478 new cases seen during the year with a total of 306,984 attendances—the average attendance being 21.2 per patient. In the absence of social service follow-up, it was difficult to get the patients to attend regularly for treatment. The cost of operation was extremely low—3.9 pence per attendance.

### Table I.—Total Figures for 1937.

New Cases:

| | Kingston. | Montego Bay (7 mths.) | Port Antonio (3 mths.) | Total Attendances. | Average Attendance |
|---|---|---|---|---|---|
| Syphilis . . | 4,381 | 1,223 | 707 | 57,511 | 9.1 |
| Gonorrhœa . . | 6,227 | 1,397 | 543 | 249,473 | 30.5 |
| Total . . | 10,608 | 2,620 | 1,250 | 306,984 | 21.2 |

After trial of other routines of treatment, at the end of the year the continuous-interrupted routine, as used at St. Thomas' Hospital, London had been adopted. It was found very difficult to get patients to attend for adequate Syphilis treatment.

### Table II.—Kingston.

*Syphilis.*

New Cases—4,381.

| | Primary. | Secondary. | Tertiary, etc. | Injections of: | | Total Attendances. |
|---|---|---|---|---|---|---|
| | | | | Neoarsphenamine | Bismuth Salicycl | |
| Male . . | 11 | 36 | 2,812 | 11,607 | 12,450 | 28,608 |
| Female . . | 84 | 76 | 1,261 | 7,212 | 6,663 | 16,237 |
| Total . . | 196 | 112 | 4,073 | 18,819 | 19,113 | 44,845 |

### Table III.—Montego Bay, July 19th to December, 21st.

*Syphilis.*

New Cases—1,223.

| | Primary. | Secondary. | Tertiary, etc. | Injections of: | | Total Attendances. |
|---|---|---|---|---|---|---|
| | | | | Neoarsphenamine. | Bismuth Salicycl. | |
| Male . . | 65 | 13 | 760 | 2,162 | 2,277 | 5,603 |
| Female . . | 21 | 12 | 373 | 1,449 | 1,475 | 3,528 |
| Total . . | 86 | 25 | 1,133 | 3,611 | 3,752 | 9,131 |

Table IV.—Port Antonio, October 1 to December 31.

New Cases: 707. *Syphilis.*

| | Primary. | Secondary. | Tertiary, etc. | Injections of: | | Total Attendaances. |
|---|---|---|---|---|---|---|
| | | | | Neoarsphenamine. | Bismuth Salicyl | |
| Male . . | 32 | 12 | 396 | 816 | 956 | 1,798 |
| Female . . | 13 | 6 | 248 | 622 | 876 | 1,737 |
| Total . . | 45 | 18 | 644 | 1,438 | 1,832 | 3,535 |

Over 50% of the 6,227 cases seen at the Kingston Clinic during the year were in the acute stage of the disease as shown by the ease with which a positive smear was obtained on the first attendance. Even the women patients showed a 42% positivity from the first cervical smear taken.

Table V.—Kingston.

*Gonorrhœa.*

| | New Cases. | First Smear. | | Injections of: | | Total Attendances. |
|---|---|---|---|---|---|---|
| | | Positive. | Negative. | Gonococcal Vaccine. | Manganese Butyrate. | |
| Male . . | 3,580 | 2,208 | 1,372 | 3,553 | 4,736 | 131,548 |
| Female . . | 2,647 | 1,133 | 1,514 | 2,080 | 3,113 | 86,953 |
| Total . . | 6,227 | 3,341 | 2,886 | 5,633 | 7,849 | 218,501 |

Table VI.—Montego Bay, July 19 to December 31.

*Gonorrhœa.*

| | New Cases. | First Smear | | Injections of | | Total Attendances. |
|---|---|---|---|---|---|---|
| | | Positive. | Negative. | Gonococcal Vaccine. | Manganese Butyrate. | |
| Male . . | 656 | 431 | 215 | 30 | 946 | 12,447 |
| Female . . | 741 | 177 | 564 | 266 | 1,046 | 9,766 |
| Total | 1,397 | 608 | 779 | 296 | 1,992 | 22,213 |

Table VII.—Port Antonio, October 1 to December 31.

*Gonorrhœa.*

| | New Cases. | First Smear. | | Injections of | | Total Attendances. |
|---|---|---|---|---|---|---|
| | | Positive. | Negative. | Gonococcal Vaccine | Manganese Butyrate | |
| Male . . | 240 | 132 | 108 | . . | 387 | 4,526 |
| Female . . | 303 | 128 | 175 | . . | 204 | 4,233 |
| Total . . | 543 | 260 | 283 | . . | 591 | 8,759 |

An outstanding feature of the work of these clinics has been the difficulty in getting patients to attend regularly for treatment. This has been most marked in Montego Bay and Port Antonio where many patients live miles from the clinic. Even in Kingston the attendance is very irregular.

There is urgent need for increased staff in all the clinics in order to keep up an efficient standard of treatment.

S. E. Ferreira,
Venereal Diseases Officer.

## IX.—TUBERCULOSIS.

### TUBERCULOSIS CLINIC.

During the year 1937 the work at the Tuberculosis Clinic was continued on the same lines as in previous years. 3,664 new patients were examined of whom 1,937 received X-ray examination. The total attendance of old patients was 8,550. Among new patients there were 526 cases of tuberculosis of which 328 were open cases, sputum positive; 96 were sputum negative and 102 were latent or quiescent cases. 30 cases of pulmonary tuberculosis developed among old patients. A total of 437 new cases were notified from the Dispensary.

The nurses attached to the Dispensary in addition to carrying out the work of the Clinic during the mornings paid an aggregate of 4,630 visits to patients and contacts in their homes. The educational work carried on by these nurses is of the utmost importance, and it is today, far easier to persuade patients to maintain precautions than was formerly the case. Where isolation is not maintained it is through poverty and patients are far readier to go to the Tuberculosis Ward at the Poor House and to the Tuberculosis Hospital than ever before.

Each month has seen an increase in the pneumothorax clinics. 169 new cases were undertaken during the year and 3,660 refills were given. Pneumothorax clinics are now held three times a week and it is probable that an evening clinic will shortly have to be started.

X-ray examinations were made on 1,965 new cases, a total of 4,384 examinations were made, 148 of which were private cases. Three lipiodol bronchograms were made.

In the early part of the year the Government Laboratory undertook to examine spututm for the dispensary during a temporary shortage of staff. The total sputum examinations made, however, at the Dispensary itself was 2,808.

Table I appended shows a detail of dispensary work.

Table II appended is a monthly analysis of the diagnosis of these new cases which received clinical and X-ray examinations.

Table I.

| | | |
|---|---|---|
| *New Patients* | | 3,664 |
| Clinical and X-ray Examinations: | | |
| (a) For diagnosis | 1,142 | |
| (b) For Contact | 795 | |
| (Referred by Doctors 473) | | 1,937 Total |
| Clinical Examinations Alone: | | |
| (a) Retained on records (observation) | 771 | |
| (b) Discharged or referred elsewhere | 956 | 1,727 Total |
| *Summary of Diagnoses*— | | |
| Pul. Tb. in new patients, sputum positive | 328 | |
| Pul. Tb. in new patients, sputum negative | 96 | |
| Pul. Tb. (quiescent or arrested) | 11 | |
| Latent Tuberculosis | 36 | |
| Childhood type Tuberculosis | 55 | |
| Suspected Tuberculosis | 77 | |
| Calcified Lesion | 55 | |
| Not complete | 56 | |
| Extra pulmonary Tuberculosis | 2 | |
| No Tuberculosis | 1,221 | 1,937 Total |
| *Old Patients*— | | |
| Number of old patients attending | | |
| Total attendance of old patients | 8,550 | |
| Pul. Tb. developing in old patients, sputum pos. | 18 | |
| Pul. Tb. developing in old patients, sputum neg. | 12 | |
| Pul. Tb. formerly sputum neg., now pos. | | |
| Deaths reported during the year | 314 | |
| Cases notified to Central Board of Health | 447 | 9,341 Total |
| *Nurses Visits*— | | |
| Nurse Richardson | 1,158 | |
| Nurse Harris | 1,023 | |
| Nurse McPherson | 1,396 | |
| Nurse Penman | 1,053 | 4,630 Total |
| *Diagnostic Methods*— | | |
| Sputum Examination: | | |
| Positive | 641 | |
| Negative | 2,167 | 2,808 Total |
| *X-ray Examinations*: | | |
| New Cases | 1,965 | |
| Retakes | 2,271 | |
| Private cases | 148 | |
| Lipiodol Bronchograms | 3 | |
| Bronchoscopy | 15 | 4,402 Total |
| *Therapeutic Procedures*— | | |
| Artificial Pneumothorax: | | |
| Inductions | 169 | |
| Refills | 3,660 | 3,829 Total |

## TUBERCULOSIS DISPENSARY.

### Analysis of Diagnoses of New Cases.

### Table II.

| Month. | Pul. Tbc. sp. pos. | Pul. Tbc. sp. neg. | Pul. Tbc. of the childhood type. | Pul. Tbc. Latent. | Pul. Tbc. Arrested. | Suspected Tuberculosis. | Tuberculosis of other organs. | Calcified Pulmonary Lesions. | Diagnosis Incomplete. | No Tuberculosis. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| January .. | 24 | 4 | 5 | 5 | .. | 4 | .. | 4 | 2 | 103 | 151 |
| February .. | 25 | 15 | 8 | 7 | 1 | 9 | .. | 7 | 7 | 102 | 181 |
| March .. | 34 | 8 | 4 | 4 | .. | 4 | .. | 5 | 1 | 127 | 187 |
| April .. | 26 | 9 | 1 | .. | .. | 4 | .. | 6 | 7 | 124 | 177 |
| May .. | 31 | 7 | 6 | 4 | 2 | 7 | 1 | 2 | 5 | 80 | 145 |
| June .. | 30 | 9 | 5 | 1 | .. | 9 | .. | 6 | 7 | 105 | 172 |
| July .. | 34 | 8 | 8 | .. | 2 | 8 | .. | 5 | 1 | 96 | 162 |
| August .. | 24 | 8 | 6 | 2 | 3 | 5 | 1 | 3 | 4 | 68 | 154 |
| September .. | 30 | 5 | 2 | 5 | .. | 4 | .. | 1 | 4 | 119 | 170 |
| October .. | 28 | 7 | 4 | 6 | .. | 9 | .. | 6 | 6 | 97 | 163 |
| November .. | 20 | 3 | 3 | 1 | 3 | 7 | .. | 7 | 5 | 97 | 146 |
| December .. | 22 | 13 | 3 | 1 | .. | 7 | .. | 3 | 7 | 73 | 129 |
| Total | 328 | 96 | 55 | 36 | 11 | 77 | 2 | 55 | 56 | 1,221 | 1,937 |

## TUBERCULOSIS HOSPITAL.

The year has shown a heavy increase in the work of this Institution, particularly in surgery. The average number of in-patients has been 50. 34 deaths occerred in the Institution; 78 patients were discharged, 74 of these being improved, while 4 were discharged at their own request; the number of new cases admitted was 116 and 52 patients were remaining in the Institution at the end of the year.

Pneumothorax on in-patients, including in-patients in the Tuberculosis Wards at the Poor House, is carried out three times a week. A total of 1,008 refills were given during the year. Other therapeutic procedures were as follows:—

| | |
|---|---|
| Phrenic crushing or avulsion .. .. | 60 |
| Scaleniotomy .. .. .. | 4 |
| Internal Pneumonolysis .. .. | 60 |
| Thorocoplasty .. .. .. | 13 |
| Thoracotomy .. .. .. | 8 |
| Thoracolavage .. .. .. | 16 |
| Bronchoscopy .. .. .. | 15 |
| Tonsilleetomy .. .. .. | 1 |

The Institution is hampered by lack of space and the present cooking arrangements are inadequate and should be altered.

The operations for Thoracoplasty were all performed at the Kingston Public Hospital through the courtesy and co-operation of Dr. Westmorland and the Hospital anæsthetists.

## TUBERCULOSIS WARDS AT THE POOR HOUSE.

The male and female Tuberculosis Wards in the Kingston and St. Andrew Corporation Poor House are under the supervision of the Tuberculosis Officers. These wards are old-fashioned and are quite inadequate for the numbers of patients requiring admission to them. In the male ward which acocomodates 30 patients comfortably the average number of inmates throughout the year has been 38.

In the female wards which have accommodation for 24 patients the average number of inmates has been 32. In spite of this overcrowding the conditions in the Poor House have been far better than in past years, and it is to-day easier than it has ever been before to induce patients to enter these wards.

There was a total of 272 inmates during the year, of these 20 were non-tuberculous cases who were discharged or transferred as soon as the diagnosis had been made, of the remainder all were far advanced cases of a high degree of infectivity. 145 died in the institution, 46 dying less than two weeks after admission. 16 cases were transferred to the Tuberculosis Hospital and only 15 were discharged improved. Three patients were discharged at their own request.

The importance of the work done in these wards is that of prevention of the spread of infection, and the decline in new cases of pulmonary tuberculosis occurring in the parishes of Kingston and St. Andrew may be attributed in great part to the large number of highly infectious cases segregated in these wards.

### *Report on Travelling X-ray Unit.*

During the year the X-ray Unit visited every parish except St. Thomas and in addition carried out school surveys in Kingston and St. Andrew. The total number of miles travelled was 3,763 and 3,459 X-Rays were taken as shown in the following Table:—

Table III.

| Parish. | No. of Visits. | Cases X-rayed. |
|---|---|---|
| Clarendon .. .. .. | 1 | 186 |
| Portland .. .. .. | 1 | 170 |
| Manchester .. .. | 2 | 561 |
| Westmoreland .. .. | 2 | 358 |
| Trelawny .. .. | 3 | 81 |
| St. James .. .. | 2 | 205 |
| St. Ann .. .. | 2 | 519 |
| St. Catherine .. .. | 1 | 252 |
| St. Mary .. .. | 3 | 418 |
| St. Elizabeth .. .. | 2 | 209 |
| Hanover .. .. | 2 | 153 |
| Kingston and St. Andrew (School Surveys) .. .. | 2 | 347 |
| St. Thomas .. .. | Not visited | |
| Total .. .. | 23 | 3,459 |
| Total number of miles travelled .. | | 3,763 |

E. JOYCE SAWARD,
Tuberculosis Officer.

## X.—MALARIA.

### *Report of the Malaria Officer for* 1937.

### ORGANIZATION.

The organization of the Department of Malaria remained unchanged during 1937. Dr. F. W. Aris who initiated malaria control work in Jamaica and carried it on so successfully for eight years was succeeded as Malaria Officer by Dr. H. M. Johnston on 1st July, 1937. There were no changes in the field staff. It is gratifying to record the ever growing enthusiasm of the Medical Officers of Health in control work not only has their personal supervision of field staff done much to keep efficiency at high level, but increasing headway has been made in securing the co-operation of Local Boards of Health and property owners through their mediation.

### MALARIA INCIDENCE AND MORTALITY.

With the present limited programme of control, malaria promises to remain one of the foremost public health problems of the Colony for some time to come. However, the malaria history of 1937 must be considered very satisfactory. There were outbreaks of importance in two areas only—Hope Bay and St. Margaret's Bay in Portland. Prompt co-operation of the Central Board of Health and the Local Board of Health in census and treatment of cases and attacks on mosquito breeding places checked the outbreaks shortly.

Hospital records show considerable reduction in the number of patients attending for treatment—10,932 cases in 1937 as against 18,373 in 1936. Special attention must be called to Kingston where the number fell from 1,359 in 1936 to 661 in 1937. In this is reflected, no doubt, the results of intensive control measures in the area extending from and including Greenwich Farm westward along both sides of the Spanish Town Road. In this area the year was marked by the conspicuous absence of the annual Spring flare up.

### MORTALITY.

There were 504 deaths in 1937 as against 672 in 1936.

### MOSQUITO BREEDING AND RAINFALL.

In almost all control areas, mosquito catches, both larval and adult, yielded smaller numbers than the preceding year. The nature of the rainfall is accountable in a large measure for this as well as for the decreased number of malaria cases reported from hospitals, for while the rainfall in inches did not vary appreciably from 1936, it was largely concentrated in the last quarter of the year leaving the other months relatively dry. The tendency for anopheline breeding to spread upland along pools left in the beds of rivers lowered by diminished rainfall was marked in several areas during the first half of the year. Albimanus was found breeding at 1,600 feet and over, in two areas of Upper Trelawny and Upper St. Elizabeth; at Southfield in the latter parish breeding occurred in private tanks.

### ACTIVITIES.

Control work proceeded along the general lines followed for some years now. In some areas the nature of the local problem dictates a policy of temporary treatment by the use of larvicides principally, with no prospect of relief by permanent measures. But in other places much could be done to lessen the recurrent annual expenditure on larvicides and labour by permanent measures such as drainage and filling, and it is hoped that in some areas where temporizing has prevailed for a number of years the efforts of the Central Board of Health, Local Boards of Health and owners will soon combine to substitute permanency for this inadequate way of meeting the situation.

### KINGSTON AND ST. ANDREW CORPORATION.

During 1936 the anti-malaria operations of the Kingston and St. Andrew Corporation Health Department were considerably extended along the Spanish Town Road westward. Increased staff with close supervision was necessary, and for this the Central Board of Health loaned one Sanitary Inspector for one of the two divisions of the area and one Senior Sanitary Inspector to have general oversight of the activities of this entire area in addition to other sanitary duties of a more general nature. The decrease in mosquito and malaria incidence fully justified continuance of the policy during 1937.

The ponds some eight miles to the east of Kingston known as Evans Pond and Garcia Pond, have for some time attracted suspicion as contributors to the malaria incidence of Kingston itself as well as to Bull Bay and Seven Miles. Night bathing parties frequenting the beaches in the vicinity of these ponds where anopheline breeding is prolific have been the chief vehicles of malaria transport from ponds to city. During 1937 a drainage system put in by the Engineering Department of the Kingston and St. Andrew Corporation as well as cleaning operations in the pond itself by the Health Department, have done much to reduce the acreage under water at Evans Pond, and to reduce breeding to the point of easy control.

During the year the Public Works Department carried out road construction and swamp reclamation activities in the western portion of the Greenwich Pen and Kingston Pen Swamps resulting in several acres of well graded and well drained land.

*St. Thomas.*—A large area extending from Port Morant on the west through Golden Grove to Amity Hall on the east including the village of Bath is under control. This area best demonstrates the possibility of co-operation between Health Authorities and property owners.

During 1937 new activities were undertaken in the Pear Tree River Area at no added cost to Central Board of Health except for Paris Green. Other expenses were borne entirely by contributions of property owners. The entire undertaking is under supervision of a Sanitary Inspctor of the Central Board of Health.

Unfortunately the problem presented by this extensive area does not lend itself to solution by permanent drainage or filling and the methods employed must be continued indefinitely.

*St. Mary.*—The Annotto Bay area extends from Itaboreal three miles east of Annotto Bay to Robins Bay and Chovey on the west. The area abounds with streams and ponds not susceptible of permanent measures within reasonable cost. Control work must therefore be continued along the same lines from year to year. Property owners assist in providing labour for cleaning and oil.

Some of the properties to the west of the town in what is known as the "Outside Zone" passed into new ownership with temporary disruption of the co-operative control programme, but this was re-established before the close of the year.

*Trelawny.*—Control measures include Falmouth and the immediate vicinity for protection of the town only. Work now consists entirely of use of larvicides for which a staff of one foreman and three labourers are employed.

It is felt that completion of the part finished tidal canal now in existence would do much to lessen mosquito breeding by increasing salinity of the swamps, beyond anopheline tolerance.

*St. James.*—The malaria problem in Montego Bay is perpetuated by the existence of extensive swamps on the north and sugar cane cultivations, streams, and splash ponds to the south of the town. To cope with this, the Central Board of Health provides labour annually under supervision of a Sanitary Inspector. This is supplemented by labour supplied by Local Board of Health and property owners.

One of the two owners of swamp lands on the northside of the town installed a drainage scheme consisting of ditches and a pump with tidal gates which proved successful in drying a 60 acre plot even after the unusually heavy rainfall of October. This augurs well for any similar scheme which might be contemplated for this entire stretch of swamp.

*Westmoreland.*—Two areas in this parish are under control, Sav.-la-Mar and Little London.

*Sav.-la-Mar.*—An area of 3 x 4 miles is under control. Five labourers are constantly at work under supervision of the Sanitary Inspector. Considerable permanent work is attempted by drainage but an abundance of small streams in the area makes this a constantly recurring problem.

*Little London.*—The Central Board of Health provides three labourers under direct supervision of a foreman employed by the Local Board of Health with oversight by the Sanitary Inspector at Sav.-la-Mar. Many large ponds have been drained in this area by an extensive system of ditches, which require constant labour to maintain them in efficient working order.

During the year under review several ponds were drained for the first time through additional ditches made possible by the lowering of a culvert under the Little London–Negril road by the Public Works Department.

*St. Elizabeth.*—Black River presents a problem which can be attacked only by the use of larvicides, and cleaning of the river margins for a certain distance from the town. This is obviously the procedure which must continue indefinitely with no promise of a permanent solution. A staff of two labourers and a Sanitary Inspector carry on the work. The present arrangement is unsatisfactory—either the labourers should work for six days a week instead of five as at present, or another labourer should be provided.

*Clarendon.*—Two new areas in Clarendon received special attention during the year—Milk River and the area including May Pen and the Estates nereby. The work in the Vere area was carried on as hitherto.

*Milk River.*—The system of control in operation was carried on by two labourers employed by the Central Board of Health and one labourer employed by the Parochial Board for the village of Rest some three miles from the Baths by Road. Under the present provision it is impossible to attempt control measures for more than a mile of the river course—half a mile in either direction from the Baths—and even this cannot be kept thoroughly free of vegetation. The results secured in 1937 have not been satisfactory.

*May Pen.*—The Grinan estate group including Sevens, Parnassus and others are included in a control undertaking financed by the Estates and supervised by the Local Board of Health. In and around May Pen itself, an attempt was started in the latter part of the year by the staff of the Local Board of Health and some progress has been made, but this has been seriously hampered by a system of defective drains controlled partly by the Public Works Department, partly by Parochial Board and partly by private interests—a multiplicity of responsibilties which has resulted in an unwillingness by all to shoulder any real responsibility.

*Vere.*—Control work has been going on on the plantaions in this area controlled by the United Fruit Company for some years now. There is a staff of a foreman and labourers whose salaries are paid by the Company. The only cost to the Central Board of Health of control in this area is the cost of Paris Green. Recently these properties have passed into the hands of Tate and Lyle who are carrying on the same programme of control initiated by their predecessors, Visits are made from time to time by the Malaria Officer.

*St. Catherine.*—Large banana and sugar cane properties of southern St. Catherine are under efficient control for which the owners provide all labour and larvicide (except paris green). A Sanitary Inspector is provided by the Central Board of Health to supervise this and other control undertakings of the Local Board of Health as far away as Old Harbour.

## RECOMMENDATIONS.

### A. SPECIFIC.

1. *Kingston and St. Andrew Corporation.*—There is urgent need for institution of a system of earth ditch drainage continuing from the area of Greenwich Farm recently reclaimed by the Public Works Department, westward along the area between Spanish Town Road and the sea to and including the Duhaney River. Such a scheme must be designed to admit of connection with compulsory subsidiary schemes for irrigated cultivations both north and south of the Spanish Town Road, and must include provision for maintaining the Duhaney River free of vegetation continuously.

2. *Portland.*—During the latter part of 1937 malaria manifested its annual recurrence in epidemic form in Hope Bay and St. Margaret's Bay. In addition, Port Antonio and the district of Fellowship showed alarming increase of cases. Suggestions have been put up for a control unit of one Sanitary Inspector and four labourers to control Fellowship, Port Antonio, Hope Bay, and St. Margaret's Bay.

3. *Trelawny.*—Extensive swamps extending southward from Falmouth along both sides of the Martha Brae road render control by larvicides alone extremely difficult. It is recommended that early consideration be given to completion of the part constructed tidal canal now in existence which will do much to lesson anopheline breeding in these swamps.

4. *St. James.*—That property owners on the outskirts of Montego Bay be called upon to put in operation drainage schemes necessary for elimination of mosquito breeding places. Failing this, that the Authorities undertake the work as a charge against the properties.

5. *Clarendon: Milk River.*—Proper control of this area must include the entire stretch of river from the Baths to the village of Rest, the ponds and canefields at Rest, and ponds and canefields on Springfield property across from the Baths. The proposition has been advanced to provide one foreman, three labourers and a suitable boat, and to call upon the Springfield management to provide the necessary labour and larvicides.

6. *St. Catherine: St. Thomas-ye-Vale.*—Morbidity and mortality figures for this area for 1937 indicate the urgency for institution of control measures in this area. It is suggested that the Local Board of Health be assisted by the Central Board of Health in providing a foreman and two labourers.

### B. GENERAL.

In spite of efficiency of control measures in maintaining malaria at a low level in control areas, the steady upward trend of malaria during rainy years is too serious a warning to be heeded half heartedly. The policy should be one of permanent remedy in areas where this is possible and steady extension of control into new areas where the need is indicated.

It is suggested that the question of drug control as a useful adjunct to mosquito control has not been sufficiently exploited due to lack of personnel.

## RETURNS.

### Table I.—Finance.

Return showing cost per occupied bed per annum for the year ended 31st December, 1937.

| Hospitals. | Average No. of Beds Occupied. | Cost of Staff. | | | Other Charges. | | | Total. | | | Cost per occupied bed per annum. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Staff. | | | Other Charges. | | |
| | | £ | s. | d. | £ | s. | d. | £ | s. | d. | £ | s. | d | £ | s. | d. |
| Public Hospital, Kingston .. | 386 | 17,991 | 6 | 4 | 18,479 | 15 | 8 | 36,471 | 2 | 0 | 46 | 12 | 2 | 47 | 17 | 6 |
| Jubilee Hospital .. | 68 | 3,204 | 12 | 2 | 2,989 | 16 | 4 | 6,194 | 8 | 6 | 47 | 2 | 6 | 43 | 19 | 4 |
| Lepers' Home .. | 165 | 1,194 | 12 | 3 | 2,764 | 7 | 4 | 3,958 | 19 | 7 | 7 | 4 | 10 | 16 | 15 | 1 |
| Morant Bay Hospital | 33 | 837 | 0 | 2 | 808 | 6 | 9 | 1,645 | 6 | 11 | 25 | 7 | 3 | 24 | 9 | 11 |
| Hordley “ | 31 | 895 | 16 | 8 | 806 | 14 | 5 | 1,702 | 11 | 1 | 28 | 17 | 11 | 26 | 0 | 5 |
| Port Antonio “ | 50 | 1,239 | 11 | 5 | 1,408 | 6 | 9 | 2,647 | 18 | 2 | 24 | 15 | 10 | 28 | 3 | 4 |
| Buff Bay “ | 48 | 1,158 | 14 | 3 | 1,241 | 15 | 7 | 2,400 | 9 | 10 | 24 | 2 | 9 | 25 | 17 | 5 |
| Annotto Bay “ | 60 | 1,174 | 15 | 5 | 1,321 | 2 | 9 | 2,495 | 18 | 2 | 19 | 11 | 7 | 22 | 0 | 4 |
| Port Maria “ | 83 | 1,329 | 8 | 0 | 1,614 | 7 | 2 | 2,943 | 15 | 2 | 16 | 0 | 4 | 19 | 9 | 0 |
| St. Ann's Bay “ | 50 | 1,117 | 3 | 7 | 1,500 | 9 | 2 | 2,617 | 12 | 9 | 22 | 6 | 10 | 30 | 0 | 2 |
| Cave Valley .. | 14 | 386 | 12 | 9 | 391 | 7 | 5 | 778 | 0 | 2 | 27 | 12 | 4 | 27 | 19 | 1 |
| Falmouth “ | 27 | 899 | 13 | 0 | 733 | 14 | 3 | 1,633 | 7 | 3 | 33 | 6 | 5 | 27 | 3 | 5 |
| Ulster Spring “ | 9 | 336 | 4 | 2 | 343 | 6 | 7 | 679 | 10 | 9 | 37 | 7 | 2 | 38 | 2 | 11 |
| Montego Bay “ | 122 | 1,810 | 13 | 7 | 3,590 | 13 | 2 | 5,401 | 6 | 9 | 14 | 16 | 10 | 29 | 8 | 8 |
| Lucea “ | 28 | 852 | 8 | 5 | 921 | 17 | 7 | 1,774 | 6 | 0 | 30 | 8 | 10 | 32 | 18 | 6 |
| Sav.-la-Mar “ | 71 | 1,422 | 5 | 11 | 1,441 | 9 | 2 | 2,863 | 15 | 1 | 20 | 0 | 8 | 20 | 6 | 0 |
| Black River “ | 82 | 1,398 | 11 | 9 | 1,806 | 17 | 2 | 3,205 | 8 | 11 | 17 | 1 | 1 | 22 | 0 | 8 |
| Mandeville “ | 51 | 1,074 | 10 | 6 | 1,523 | 11 | 0 | 2,598 | 1 | 6 | 21 | 1 | 5 | 29 | 17 | 6 |
| Chapelton “ | 50 | 910 | 2 | 11 | 1,278 | 18 | 0 | 2,189 | 0 | 11 | 18 | 4 | 1 | 25 | 11 | 7 |
| Lionel Town | 43 | 1,027 | 5 | 8 | 1,280 | 4 | 3 | 2,307 | 9 | 11 | 23 | 17 | 9 | 29 | 15 | 5 |
| Spanish Town “ | 75 | 1,400 | 3 | 9 | 1,732 | 12 | 5 | 3,132 | 16 | 2 | 18 | 13 | 5 | 23 | 2 | 0 |
| Linstead “ | 54 | 1,148 | 13 | 5 | 1,405 | 13 | 5 | 2,554 | 6 | 10 | 21 | 5 | 5 | 26 | 0 | 7 |
| | 1,600 | 42,810 | 6 | 1 | 49,385 | 6 | 4 | 92,195 | 12 | 5 | .. | | | .. | | |
| Mental Hospital .. | 2,089 | 22,905 | 7 | 8 | 21,289 | 2 | 0 | 44,194 | 9 | 8 | 10 | 19 | 4 | 10 | 3 | 10 |

Table II.—Return showing the value of Drugs, etc., supplied to the various Institutions from the Island Medical Stores from 1.1.37 to 31.12.37.

| | £ | s. | d. |
|---|---|---|---|
| Value of Drugs and Sundries issued to Public General Hospitals, Lepers' Home and Medical Districts .. .. | 9,867 | 12 | 10 |
| “ Stimulants issued to the Public General Hospitals .. | 30 | 0 | 1 |
| “ Drugs, etc., issued to the Kingston Public Hospital .. | 5,416 | 3 | 9 |
| “ Stimulants issued to the Kingston Public Hospital .. | 4 | 12 | 11 |
| “ Drugs, etc., issued to the Jubilee Hospital .. | 525 | 13 | 5 |
| “ Stimulants issued to the Jubilee Hospital .. | 1 | 5 | 1 |
| “ Drugs, etc., issued to the Mental Hospital .. | 236 | 14 | 1 |
| “ Drugs, etc., issued to Prisons and Industrial School .. | 276 | 16 | 8 |
| “ Drugs, etc., issued to Department of Agriculture .. | 20 | 5 | 8 |
| “ Drugs, etc., issued to Quarantine Board .. .. | 97 | 18 | 9 |
| “ Drugs, etc., issued to Parochial Boards .. .. | 630 | 3 | 1 |
| “ Stimulants issued to Kingston and St. Andrew Corporation | 0 | 2 | 7 |
| “ Drugs, etc., issued to the Constabulary Department | 48 | 9 | 10 |
| “ Drugs and Sundries sold .. .. .. | 405 | 7 | 11 |
| “ Lymph issued to Medical Officers .. .. | 435 | 18 | 9 |
| Lymph sold .. .. .. .. | 16 | 3 | 9 |
| “ Drugs, etc., issued to Hookworm Commission .. | 21 | 3 | 11 |
| “ Quinine issued to Post Office for packets .. | 727 | 12 | 4 |
| Quinine issued to Schools .. .. .. | 49 | 8 | 6 |
| “ Drugs, etc., issued to Jamaica Government Railway | 19 | 6 | 6 |
| “ Drugs, etc., issued to Tuberculosis Clinic .. | 629 | 9 | 11 |
| “ Drugs, etc., issued to Malarial Commission .. | 15 | 6 | 5 |
| “ Drugs, etc., issued for control of Epidemic Diseases . | 79 | 10 | 5 |
| “ Drugs, etc., issued to the Yaws Commission | 357 | 18 | 10 |
| “ Drugs, etc., issued to the Venereal Diseases Clinics .. | 3,540 | 5 | 4 |
| Total .. | £23,454 | 1 | 4 |

Table III.—The following Return shows the amount of Quinine issued from the Medical Stores during 1937.

| | lb. | ozs. |
|---|---|---|
| *Quinine Tablets*— | | |
| Police for their own use | 17 | 10 |
| Post Office for Sale | 390 | |
| Estate | . . | . . |
| Parochial Boards | 3 | |
| Hospitals and Mental Hospital | 10 | 8 |
| Prisons and Industrial School | 2 | |
| Malaria Commission | 9 | |
| Epidemic Measures | 33 | |
| Dispensaries | 5 | 14 |
| Medical Officers (Health) | 39 | 8 |
| *Quinine Sulphate*— | | |
| Hospitals and Mental Hospital | 339 | 6 |
| Parochial Boards | 13 | 7 |
| Prisons and Industrial School | 13 | 7 |
| Epidemic Measures | 2 | 13 |
| Dispensaries | 81 | 13 |
| Medical Officers (Health) | 5 | |
| United Fruit Company | 40 | 10 |

During the year two examinations were held under Law 20 of 1926, ‘The Sale of Drugs and Poisons Law” at which forty-nine candidates presented themselves including fourteen from the Kingston Hospital.

Twenty of these including eleven from the Kingston Hospital satisfied the Examiners and were granted Licenses.

Table IV.—Return of Cases in the Kingston and St. Andrew Corporation Hospital for Infectious Diseases (for a 5-year period.)

| Admission. | 1933 | 1934 | 1935 | 1936 | 1937 |
|---|---|---|---|---|---|
| Chicken Pox | 19 | . . | 1 | . . | 4 |
| Measles | 13 | . . | . . | . . | 2 |
| Syphilis | 4 | . . | . . | . . | . . |
| Diphtheria | . . | 1 | 1 | . . | 1 |
| Yaws | 1 | . . | . . | . . | . . |
| Whooping Cough | . . | . . | . . | . . | . . |
| Scarlet Fever | . . | . . | . . | 1 | . . |
| Leprosy | 1 | . . | . . | . . | . . |
| Impetigo | 1 | . . | . . | . . | . . |

I. J. Cruchley,
Medical Officer of Health, Kingston and
St. Andrew.

## MEDICAL DEPARTMENT.

Report for the year ended 31st December, 1937.

### PART II.

### I.—SPECIAL TUBERCULOSIS STUDIES AT THE MENTAL HOSPITAL AND THE STONY HILL INDUSTRIAL SCHOOL.

(By Dr. E. W. Flahiff of the Rockefeller Foundation.)

(a) *Report of the work done at the Mental Hospital during the year* 1937.

During the year 1937, the work at the Mental Hospital proceeded along the same general lines as in previous years.

In Table I is presented the results of tuberculin tests and X-ray examinations of new admissions during the year 1937. It may be seen that there were 556 new admissions to the Institution. Not included in these 556 are 10 old vaccinated cases and 2 old controls who were re-admitted during the year. There were no X-ray lesions found in this group of 12 and they are not included as new admissions since they again fall into their previous classification of vaccinated and control cases. However, included in the 556 admissions are 66 old tuberculin positive re-admissions. It will, therefore, be seen that 13.7 per cent. of all admissions during 1937 were re-admissions, 292 (or 52.5 per cent.) of the admissions were males, and 264 (or 47.5 per cent.) were females. It is interesting to note that this is the first year since the beginning of this study that the number of male admissions has exceeded that of the females. Of the 556 new admissions, 460 (82.7 per cent.) received a tuberculin test within one month after admission (82.8 per cent. were tested, in 1936). 80.1 per cent. of the males were tested, and 85.6 per cent. of the females. 220 (94.0 per cent.) of the males were tuberculin positive, and 195 (86.3 per cent.) of the females. As in all previous years, the number of females found negative to tuberculin was much greater than that of the males.

The Results of Tuberculin Tests and X-Ray Examination of New Admissions to the Mental Mental during the year 1937.

| Age. | Sex. | Total number in Group. | Number with complete tuberculin tests. | Number Tuberculin Positive. | Number Tuberculin Negative. | Per Cent. Tuberculin Positive | X-Ray Diagnosis. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Tracheo-bronchial Lymph Nodes. | | | Pulmonary Tuberculosis. | | | | | Type Tuberculosis. | | | |
| | | | | | | | Calcified Pulmonary Nodules | Pulmonary Infiltration Childhood, | Calcified | Caseous | Latent Apical | Sputum Positive | Sputum Negative | No Tuberculosis | Suspected Tuberculosis | Diagnosis Incomplete | Childhood | Adult | Undetermined | Total Number X-rayed. |
| 0–9 .. | M | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | F | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 10–19 | M | 24 | 21 | 19 | 2 | .. | .. | .. | 1 | .. | .. | .. | .. | 20 | .. | .. | .. | .. | .. | 21 |
| | F | 23 | 22 | 21 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 20 | 1 | 1 | .. | .. | .. | 22 |
| 20–29 .. | M | 78 | 68 | 64 | 4 | .. | .. | .. | 1 | .. | .. | .. | 1 | 67 | .. | 2 | .. | .. | .. | 71 |
| | F | 75 | 62 | 47 | 15 | .. | 2 | .. | .. | .. | .. | .. | 1 | 60 | 1 | 1 | .. | .. | .. | 65 |
| 30–39 .. | M | 85 | 69 | 67 | 2 | .. | .. | .. | 1 | .. | .. | .. | .. | 65 | 1 | 1 | .. | .. | .. | 68 |
| | F | 72 | 60 | 53 | 7 | .. | 1 | .. | .. | .. | 1 | .. | .. | 59 | 1 | 1 | .. | .. | .. | 63 |
| 40–49 .. | M | 61 | 47 | 44 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | 46 | 1 | .. | .. | .. | .. | 47 |
| | F | 48 | 40 | 35 | 5 | .. | 1 | .. | 1 | .. | .. | .. | .. | 42 | .. | .. | .. | .. | .. | 44 |
| 50–59 .. | M | 19 | 13 | 11 | 2 | .. | 1 | .. | .. | .. | .. | .. | .. | 14 | .. | .. | .. | .. | .. | 15 |
| | F | 22 | 20 | 18 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 18 | .. | 1 | .. | .. | .. | 19 |
| 60– | M | 25 | 16 | 15 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 20 | .. | .. | .. | .. | .. | 20 |
| | F | 24 | 22 | 21 | 1 | .. | 1 | .. | .. | .. | .. | .. | 1 | 21 | .. | 1 | .. | .. | .. | 24 |
| Total .. | M | 292 | 234 | 220 | 14 | 94.0 | 1 | .. | 3 | .. | .. | .. | 1 | 232 | 2 | 3 | .. | .. | .. | 242 |
| | F | 264 | 226 | 195 | 31 | 86.3 | 5 | .. | 1 | .. | 1 | .. | 2 | 220 | 3 | 5 | .. | .. | .. | 237 |
| Total .. | .. | 556 | 460 | 415 | 45 | 90.2 | 6 | .. | 4 | .. | 1 | .. | 3 | 452 | 5 | 8 | .. | .. | .. | 479 |

Of the 31 females found negative to 1.0 mg. of Old Tuberculin, 11 were added to the vaccinated group, receiving intracutaneous vaccination with heat killed tubercle bacilli, but 3 of these were discharged and 2 died before the end of the year. 10 of the tuberculin negative individuals acted as controls, but 3 of this group were discharged and one died before the end of the year. The 10 other tuberculin negative individuals were not suitable for either group due to age or acute illness on admission.

Of 14 negative male admissions, 7 were added to the vaccinated group, but one was discharged and 3 died before the end of the year. 5 tuberculin negative male admissions acted as controls, but one was discharged and one died before the end of the year. The remaining 2 negative male admissions were not suitable for either group for the same reason presented above for the females.

In spite of these losses from the vaccinated and control group, 10 old vaccinated cases and 2 controls were re-admitted, as mentioned above. This leaves, at the end of 1937, 80 vaccinated cases and 64 controls still under observation in the Institution.

Referring again to Table I, it may be seen that 479 (86.1 per cent.) of the new admissions received X-ray examinations of the chest (88.8 per cent. in 1936). 82.9 per cent. of the males, and 89.8 per cent. of the females, were X-rayed. Among these admissions were found 3 cases of manifest pulmonary tuberculosis (0.6 per cent.), and 11 cases with latent lesions (2.3 per cent.). In addition to the new admissions, 488 old cases were re-X-rayed at intervals (i.e. vaccinated and control cases, and old tuberculin positive admissions). A total of 1,384 X-rays were taken during the year (1,347 in 1936).

In Table II is presented a list of the controls and vaccinated cases who have been diagnosed during 1937, as having pulmonary tuberculosis. These results emphasize the necessity for observing the remaining vaccinated and control cases in the Institution for a longer period of time before coming to definite conclusions with respect to the protective value of the vaccine. It will be seen that 6 vaccinated cases and 6 controls have developed tuberculosis during the year 1937. 2 of the 6 vaccinated cases have developed tuberculosis under 18 months from the time of their admission, while 3 of the 6 controls developed tuberculosis within 18 months of their admission. While this observation is not as encouraging as the results found in previous years, the behaviour during 1937 of control cases diagnosed as tuberculosis in other years tends to support our previous impression that there is a definite protective value to the vaccine. 4 old control cases died of tuberculosis in 1937 and 2 were discharged with tuberculosis. In addition, there are 5 controls still in the Institution as arrested cases of tuberculosis. Opposed to this, no old vaccinated cases were discharged with tuberculosis, or died of tuberculosis, during 1937, and only one is still present with tuberculosis.

Table II.—Tuberculosis in the Control Group.

| Name. | Age. | Date of Admission. | Date of Diagnosis. | Type of Tuberculous Lesion. | Method of Diagnosis. |
|---|---|---|---|---|---|
| Rebecca Miller .. | 18 | 14.12.35 | 28.1.37 | Pleural Effusion & Childhood Tbc. | X-ray |
| Urceline Campbell .. | 40 | 20.6.32 | 10.12.37 | Pulm. Tbc. Adult Type II | Xray |
| Hestina Ankle .. | 33 | 8.10.35 | 5.11.37 | Pulm. Tbc. Und. Type II | X-ray |
| Abraham McGregor .. | 22 | 28.5.37 | 26.11.37 | Pulm. Tbc. Und. Type IV | X-ray |
| Cecil Tomlinson .. | 21 | 5.11.34 | 7.3.37 | Pulm. Tbc. Childhood Type II | Post Mortem |
| Ethel Thompson .. | 49 | 14.8.36 | 20.9.37 | Pulm. Tbc. Intermediate Type V | Post Mortem |
| Grace Ann Duncan .. | 15 | 3.4.36 | 10.11.37 | Pleural Effusion | X-ray |
| Doris Cunningham .. | 25 | 31.3.36 | 25.11.37 | Pulm. Tbc. Childhood Type III | X-ray |
| Irene Lewis .. | 28 | 10.10.35 | 7.11.37 | Pulm. Tbc. Childhood Type III | X-ray |
| Ivan Weir .. | 18 | 28.2.36 | 11.8.37 | Pulm. Tbc. Childhood Type III | X-ray |
| Zipporah Barrett .. | 29 | 25.1.37 | 8.9.37 | Pulm. Tbc. Und. Type IV | X-ray |
| Inez Dockery .. | 22 | 23.9.36 | 12.2.37 | Pulm. Tbc. Adult Type III | X-ray |

During the year 1937 there were 195 patients discharged from the Institution, 70 of whom had been admitted during the same year. 94 deaths occurred among patients admitted during the year. Therefore the total deaths and discharges among patients admitted during 1937 was 164 (or 29.5 per cent.) of the total new admissions (34.2 per cent. in 1936). Among the 195 patients discharged, there were 15 vaccinated cases and 12 controls. These figures, of course, include the vaccinated and control cases previously mentioned in this report as having been admitted during 1937 and discharged the same year.

During the year there were 253 deaths (242 in 1936). In Table III is shown the amount of tuberculosis found among those who were admitted during 1937 and died the same year. 4 of these deaths were due to tuberculosis (4.2 per cent.).

Table III.—Deaths among Cases who were admitted and died during 1937.

| Age | | | 10–19 | | 20–29 | | 30–39 | | 40–49 | | 50–59 | | 60 | | — |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sex | | | M | F | M | F | M | F | M | F | M | F | M | F | Total |
| P.M. | Tbc. | Latent | .. | .. | .. | 1 | 2 | .. | 2 | .. | .. | 1 | .. | 1 | 7 |
| | | Manifest | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 2 |
| | No Tbc. | | .. | 1 | 3 | 3 | 6 | 6 | 9 | 6 | 4 | 3 | 2 | 4 | 47 |
| No P.M. | Tbc. | Latent | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | | Manifest | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 |
| | No. Tbc. | | .. | 1 | 3 | 1 | 9 | 5 | 5 | 2 | 1 | | 5 | 4 | 36 |
| Total | | | .. | 2 | 8 | 7 | 17 | 11 | 16 | 8 | 5 | 4 | 7 | 9 | 94 |

Table IV.—Deaths during 1937 among Cases admitted prior to 1937.

| Age | | | 10–19 | | 20–29 | | 30–39 | | 40–49 | | 50–59 | | 60– | | — |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sex | | | M | F | M | F | M | F | M | F | M | F | M | F | Total |
| P.M. | Tbc. | Latent | .. | 2 | 3 | 3 | 4 | 3 | 4 | 2 | .. | .. | .. | .. | 21 |
| | | Manifest | 1 | 1 | 8 | 7 | 1 | 2 | .. | 2 | .. | 4 | .. | 1 | 27 |
| | No Tbc. | | .. | 2 | 10 | 4 | 7 | 4 | 10 | 2 | 2 | 1 | 2 | 2 | 46 |
| No P.M. | Tbc. | Latent | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| | | Manifest | 2 | 1 | 3 | 4 | 2 | 1 | .. | 1 | .. | .. | .. | .. | 14 |
| | No Tbc. | | 4 | .. | 5 | 8 | 11 | 6 | 4 | 3 | 3 | 2 | 3 | 2 | 51 |
| Total | | | 7 | 6 | 29 | 26 | 25 | 16 | 18 | 10 | 5 | 7 | 5 | 5 | 159 |

In Table IV the remainder of the deaths are tabulated as occurring in 1937 among individuals admitted to the Institution prior to 1937. It will be seen that 41 of the total deaths were due to tuberculosis (25.8 per cent.). This again illustrates, as in previous years, the great opportunity for infection in this Institution. While the number of deaths from tuberculosis among those who were admitted and died in 1937 is not as great as in previous years, the total population of the Institution has remained in the neighbourhood of 2,000 as in all other years. The total number of deaths from tuberculosis in 1936 was 52, as compared with a total of 45 for 1937.

Post Mortems were obtained on 150 (59.3 per cent.) of the 253 deaths. In 1936 we obtained post mortems on 87.2 per cent. of all deaths. This drop in the percentage of post mortem examinations is extremely unfortunate and has occurred for two reasons: (1) At the death of Dr.Hewson, late Medical Superintendent of the Mental Hospital the co-operation we formerly received in this phase of the work started to fall off to a considerable extent, and (2) the writer was absent from the Island for 5½ months during the year 1937 on cumulative leave and Dr. Wells found it impossible to devote the amount of time to this work that is necessary if we are to increase the number of post mortem examinations. However, it is hoped that there will be at least some improvement in the percentage of post mortem examinations during the year 1938. Among these 253 deaths there were 11 vaccinated cases and 12 controls. These, of course, include the vaccinated and control cases previously mentioned as having been admitted during 1937 and dying the same year. The lungs of 150 cases were kept for X-ray examination of the excised specimen, and careful dissection.

### (b) *Report of Work Done at the Stony Hill Industrial School during the year* 1937.

During the year 1937 observations were continued at the Stony Hill Industrial School. As noted in previous reports this is being done to show the efficacy of the vaccine in producing skin sensitivity to tuberculin, the degree of sensitiveness produced, and the length of time it is maintained.

During 1937 there were 73 new admissions to the Industrial School, all of whom receivedthe tuberculin test. 64 were found positive to tuberculin and 9 were negative. 6 of the 9 received the vaccine of heat killed tubercle bacilli under a changed method of administration initiated by Dr. Jules Freund during his visit to Jamaica. The other 3 were found negative towards the end of 1937 and are being held over to receive the vaccine in 1938. In addition to the above 6 individuals, 9 tuberculin negative individuals admitted during the latter part of 1936 were held over for Dr. Freund's arrival and were subsequently vaccinated according to his method. The results of this method of administration on these 15 individuals will be described later.

71 of the new admissions received X-ray examination of the chest; the other two boys having absconded from the school before X-ray examination was made. Following are the results of the X-ray examination:

2 cases of Calcified Pulmonary Nodules
1 case of Calcified Lymph Nodes
1 case of Diagnosis Incomplete
67 cases of No Evidence of Tuberculous Lesion.

All the lesions noted above were found in tuberculin positive individuals.

The age distribution of the new admissions was as follows:—

1—Age group 0–4 years
6—Age group 5–9 years
66—Age group 10–14 years.

During the year 52 boys were discharged who had entered the Institution previous to 1937. Among these there were 12 vaccinated cases from our original intracutaneously vaccinated group, and one vaccinated case from the group who received the vaccine subcutaneously. 9 boys who had acted as controls to the intracutaneous group were discharged, and one control to the subcutaneous group.

One death occurred during the year. This was a vaccinated case who took acutely ill at the Industrial School and after a few days was transferred to the Public Hospital. He died on October 5, 1937. The cause of death was given as pneumonia, but no post mortem examination was made.

### INTRACUTANEOUS VACCINATED CASES AND THEIR CONTROLS.

At the end of 1937, 35 vaccinated cases and 34 controls were still under observation in this group. In Table I is presented the percentage of vaccinated and control cases showing various degrees of sensitivity to tuberculin at intervals during the three-year study period. From Table I we have taken the material given below:—

After 6 months: 50 (or 76.9%) were tuberculin positive.
43.1% { 10 (or 16.4%) were+++to 0.01 mg.
9 (or 13.8%) were++to 0.01 mg.
9 (or 13.8%) were+to 0.01 mg.
22 (or 33.8%) were positive to 1.0 mg.

Table I.—The Tuberculin Reaction in the Vaccinated and Control Cases at certain periods during the time of Observation.

| Group. | Total Number in Group. | After 6 months. | | | | | After 12 months. | | | | | After 18 months. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | to .01 mg. | to .01 mg. | to .01 mg. | Positive to 1.0 mg. | Tuberculin Negative. | to .01 mg. | to .01 mg. | to .01 mg. | Positive to 0.1 mg. | Tuberculin Negative. | to .01 mg. | t .01 mg. | to .01 mg. | Positive to 1.0 mg. | Tuberculin Negative. |
| Vaccinated .. | 74 | 10 | 10 | 10 | 24 | 20 | .. | 5 | 3 | 29 | 17 | 2 | 3 | 11 | 15 | 17 |
| Control .. | 66 | .. | .. | .. | .. | 66 | 1 | .. | .. | 2 | 51 | 1 | .. | .. | 1 | 45 |

| | After 24 months. | | | | | After 30 months. | | | | | After 36 months. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vaccinated .. .. | 1 | 7 | 13 | 11 | 10 | 3 | 7 | 13 | 13 | 2 | 5 | 6 | 6 | 9 | 6 |
| Control .. .. | 1 | .. | .. | 3 | 38 | 3 | .. | 3 | 8 | 22 | 1 | 1 | 1 | 1 | 21 |

After 12 months: 37 (or 57.8%) were tuberculin positive.
12.5% { None were+++to 0.01 mg.
5 (or 7.8%) were++to 0.01 mg.
3 (or 4.7%) were+to 0.01 mg.
29 (or 45.3%) were positive to 1.0 mg.

After 18 months: 31 (or 64.6%) were tuberculin positive.
33.3% { 2 (or 4.2%) were+++to 0.01 mg.
3 (or 6.3%) were++to 0.01 mg.
11 (or 22.9%) were+to 0.01 mg.
15 (or 31.3%) were positive to 1.0 mg.

After 24 months: 32 (or 76.2%) were tuberculin positive.
50.0% { 1 (or 2.4%) were+++to 0.01 mg.
7 (or 16.7%) were++to 0.01 mg.
13 (or 30.9%) were+to 0.01 mg.
11 (or 26.2%) were positive to 1.0 mg.

After 30 months: 36 (or 94.7%) were tuberculin positive.
3 (or 7.9%) were+++to 0.01 mg.
60.5% 7 or( or 18.4%) were++to 0.01 mg.
13 (or 34.2%) were+to 0.01 mg.
13 (or 34.2%) were positive to 1.0 mg.
After 36 months: 26 (or 81.2%) were tuberculin positive.
5 (or 15.6%) were+++to 0.01 mg.
53.1% 6 (or 18.7%) were++to 0.01 mg.
6 ) 18.7%) were+to 0.01 mg.
9 (or 28.1%) were positive to 1.0 mg.

While only 76.9% of these individuals were positive after six months observation, all but 4 of these boy were tuberculin positive some time within the six months period. It will also be seen that there is a considerable drop in the sensitivity at the end of the 12 months period, then a gradual increase in sensitivity during the next 18 months period, reaching a peak after 30 months, and than again a slight drop.

Among the controls, the number of those who reacted is very small until we reach the 30 months period when 11 are shown as tuberculin positive. The tuberculin testing at this period was done during my absence on leave, and there probably is some difference in the interpretation of the tuberculin reaction, since my testing at the end of the 36 months period showed only 4 individuals tuberculin positive as opposed to the 14 reported at the end of the 30 months period.

During the year we have not located and have no reason to suspect the presence of any active tuberculosis in the Institution.

## Subcutaneous Administration of Tuberculin Bacilli.

One of the subcutaneous vaccinated cases was discharged in 1937, and one of the controls. This left 12 of the subcutaneous vaccinated cases and 10 of their controls still under observation at the end of 1937. The present status of these individuals is shown in Table II.

As noted in previous reports it will be seen that the degree of sensitivity to tuberculin produced by this method of administration has not been great. However, as in the case of the intracutaneous vaccinated group, there has been an increase in the percentage of those who reacted to tuberculin after the two-year period.

The controls in this group have shown little sensitivity except at the 24 months period of observation. The same criticism holds for this group as was noted in the case of the intracutaneous group since the tests at this period were done during my absence on leave.

In the last part of 1936 annual report, I mentioned that 6 boys found negative to tuberculin in December, 1936, were given the vaccine subcutaneously for four injections of 0.1 mg. each, and then a fifth injection intracutaneously of 0.1 mg. 5 other tuberculin negative individuals acted as controls to this group. In the light of further knowledge gained during 1937, we now know that this amount of vaccine is not necessary to produce sensitivity, and also that the subcutaneous administration of the vaccine frequently leads to an alarming degree of ulceration and abscess formation. However, in this group of 6 the local reactions were not as severe as those encountered in some other institutions reported by Dr. Wells in his annual report. The degree of sensitivity to tuberculin was not satisfactory. 3 became sensitive to 0.01 mg. of O.T., but only one has maintained this degree of sensitivity throughout 1937. 2 showed a weak transitory reaction to 1.0 mg. of O.T. but were both negative to 1.0 mg. at the end of 1937. The sixth case has never become positive to tuberculin.

As mentioned in the first part of this report on Industrial School activities, 10 individuals were found negative to tuberculin at the end of 1936 and were held over for the arrival of Dr. Freund in order that he might determine the method by which the vaccine was to be administered. On retesting in January, 1937, one of these was deemed not suitable for vaccination. 6 other individuals were found negative to tuberculin early in the year 1937, and were added to this group of 9. Dr. Freund divided this group of 15 into four divisions.

4 of the boys received the vaccine subcutaneously in multiple injections, receiving at the first administration four inoculations of the vaccine, the dosage being 0.05 mg. at each site. Further vaccine was administered at weekly intervals, depending on the local reaction to the vaccine given the week before. These subsequent injections were always given at four sites but the dosage varied from 0.025 x 4 to 0.05 x 4. Only one of these individuals developed a reaction to 0.01 mg. of O.T. and maintained it through the year 1937. 2 boys became positive to 1.0 mg. of O.T. for a short period of time but were negative to 1.0 mg. at the end of the year. The fourth individual never became positive to tuberculin. The local reaction to the vaccine in each case was never very severe at any one site, but showed some reaction at all sites. The multiple injections were therefore not deemed a good method of administration.

5 boys received the vaccine intracutaneously but divided into four sites at each administration. The dosage was varied in a manner similar to that employed for the subcutaneous group above. All 5 boys developed marked reactions to 0.01 mg. of O.T. and have maintained a considerable degree of sensitivity throughout the year. However, the same criticism holds for this method as pointed out for the group above, that while the degree of reaction at any one site of administration was not very severe, the multiple ulcerations would not make it a suitable method of administration in a general population.

One child received the vaccine in a method similar to the group I started in the latter part of 1936, i.e., giving three administrations of the vaccine subcutaneously and a fourth intracutaneously. The only difference, as compared with my group, was that this individual received two to four injections at each administration of the vaccine. This boy became and has persisted weakly positive to 1.0 mg. of O.T.

The remaining 5 tuberculin negative individuals were given at each administration an injection of 0.05 mg. in one site intracutaneously and 0.025 mg. in two sites subcutaneously. These individuals all became sensitive to 0.01 mg. of O.T. and have persisted with a fair degree of sensitivity throughout the year. The multiple sites of administration is again the chief objection to this method.

After the arrival of Dr. Freund in Jamaica, Dr. Wells and I assisted him in obtaining material in many schools throughout the island for his study of different methods of administration of the vaccine. The result of this work have been fully reported by Dr. Wells in his semi-annual report for 1937 and in later communications to the Home Office. When it was apparent that the methods of administration selected during the first part of the year were not satisfactory, Dr. Wells obtained material in other rural schools for further investigation of other methods of administration of the vaccine. The results of these later studies are fully reported in his Annual Report for 1937.

During the year 1938 it is my intention to continue the work at the Mental Hospital and the Stony Hill Industrial School, and in addition to expand the investigation to the rural schools. Dr. Wells has shown that a high degree of sensitivity to tuberculin has been obatined in school children with the administration of a fairly small quantity of the vaccine. In most of his work he has used several sites on the arms for the administration of the vaccine and has experimented with varying intervals of time. In my work during 1938 I will start giving the vaccine in a slightly larger dose at one site in one group and at only two sites in a second group. No further vaccine will be given in these two groups and they will be tuberculin tested and photographs taken of their arms every week. In this manner I hope to produce sensitivity with not more than one scar, or two small scars, resulting. In cases where a second administration is to be given, the interval between the first and second will be three or four weeks. By tuberculin testing all these individuals every week it is my hope to show the percentage of individuals who develop sensitivity at various periods of time.

This study seems to me to be indicated at the present phase of this work in order to determine the minimum amount of vaccine necessary to produce the greatest degree of sensitivity to tuberculin in the highest percentage of individuals possible. It seems highly desirable to have this information in addition to our present knowledge before attempting a widespread administration of the vaccine in other localities or institutions.

## II.—TREATMENT OF GONORRHŒA WITH SULPHANILAMIDE.

### Comparisons with Oral Sulphanilamide, Vaccine and Manganese Butyrate in Males and Females

BY

Dr. K. Leigh Evans, M.P.H., L.R.C.P. and S., Bacteriologist and Pathologist, Government Medical Service, Jamaica.

The reports on the use of sulphanilamide in the treatment of gonococcal infections leave no doubt that this compound has the most important place in the routine of gonococcal treatment. The report of Dees and Colston gave results of 47 cases with a complete cessation of symptoms, and a disappearance of of gonococci, within 5 days in 36 of these cases; they record only 3 failures and 3 relapses. Crean[2] is even more optimistic, recording only 6 failures and 3 relapses out of 100 cases; Anwyl-Davies[3], using a low dosage does not consider the drug satisfactory; Cokkinin gives no exact figures but is enthusiastic about the value of sulphanilamide.

In the following series the results from sulphanilamide therapy are compared with other routine methods A total of 295 cases are recorded. Of these 163 are males (113 treated with sulphanilamide) and 132 females (101 treated with sulphanilamide). There has been no attempt whatever at selection of cases on a basis of complications or duration of the disease. Each patient has been placed in one or other of the 6 groups for treatment in rotation before any history has been taken.

### Dosages.

The sulphanilamide preparation used throughout is p-Benzylamino Benzene Sulphonamide. At first treatment was commenced with a dose of 6 grammes per day. This was found to be too toxic for routine on clinic patients and a lower standard dose was used. This was 4.5 grammes per day for the first 5 days, followed by 3 grammes per day for 6 days. The total treatment lasting 11 days.

Manganese Butyrate was given in injections of 1.0cc on the 1st day and 1.5cc on the 4th day of treat-treatment; when repeated, the injections were 1.0cc on the 8th day and 1.5cc on the 11th day of treatment.

The mixed sensitised gonococcal vaccine used contains in each cubic centimetre 1,000 millions of each of the following organisms—gonococcus, staphylococcus aureus and albus, streptococcus, colon bacillus and diphtheroid bacillus. The dosage is one minim, 2 minims, 4 minims, 8 minims, 12 minims and 16 minims, given subcutaneously at weekly intervals.

For irrigation a solution containing potassium permanganate 1%, sodium carbonate 10% and sodium chloride 32% is diluted in the proportion of 2 drachms to 20 ounces.

Douching is done at a level of not more than 2 feet above the pelvis with a warm solution of sodium bicarbonate 1:160. Tampons saturated with solutions of picric acid, mercurochrome and ichthyol in glycerine are changed in alternate days, or daily if the discharge is very profuse.

An alkaline mixture of potassium bicarbonate and potassium citrate, of each 20 grains, with buchu and hyocyamus was used with vaccine and manganese butyrate male cases.

No prostatic massage or instrumentation was used on the cases treated with sulphanilamide.

### Table I—Males.

*Methods of Treatment.*

| Group. | No. of cases. | Systemic Treatment. | Local Treatment. |
|---|---|---|---|
| A | 38 | Sulphanilamide .. | Potassium Permanganate |
| B | 3 | Sulphanilamide + 2 injections of Manganese Butyrate | Potassium Permanganate |
| C | 24 | Sulphanilamide | None |
| D | 18 | Sulphanilamide + 2 injections of Manganese Butyrate | None |
| E | 18 | Gonococcal Vaccine + Alkaline Mixture | Potassium Permanganate |
| F | 32 | 4 injections of Manganese Butyrate + an Alkaline Mixture | Potassium Permanganate |
| G | 16 | Second Course of Sulphanilamide | Potassium Permanganate |

The results of treatment in the various groups are shown in Table II. The complications noted were prostatitis (very common), orchitis, epididymitis and arthritis. The duration of the disease varied from 24 hours to 2 years, 41 cases being seen within the 1st week of onset of the discharge.

### Table II—Males.

*Results of Treatment.*

| Group. | No. of Cases. | No. with Complications. | Discharge ceased within. 5 days. | 7 days. | 2 weeks. | 3 weeks. | Total. |
|---|---|---|---|---|---|---|---|
| A | 38 | 18 | 10 | 4 | 7 | .. | 21 |
| B | 33 | 13 | 11 | .. | 8 | .. | 19 |
| C | 24 | 13 | 7 | 2 | 10 | .. | 19 |
| D | 18 | 7 | 3 | 1 | 5 | .. | 9 |
| E | 18 | 8 | .. | 1 | 1 | 5 | 7 |
| F | 32 | 15 | 1 | 1 | 7 | 2 | 11 |
| G | 16 | 7 | 7 | 2 | 2 | .. | 11 |

Thus of 113 males treated with sulphanilamide 68 or 60% were clinically cured within 2 weeks of the commencement of treatment. A further 11 were clinically cured after a second course of sulphanilamide, making a total of 70% well after sulphanilamide treatment. It appears to make little difference whether the sulphanilamide is used with other local or systemic treatment—in fact the best results were obtained when the compound was used alone, 19 well out of 24 in 2 weeks. In the whole series 9 cases relapsed after all discharge had ceased and 2 other cases developed epididymitis during treatment.

Of the 32 cases treated with manganese butyrate, alkaline mixture and irrigation (prostatic massage and instrumentation used when indicated) only 11 were clinically cured at the end of 3 weeks. The cases treated with gonococcal vaccine showed similar poor results—7 out of 18 in 3 weeks.

Laboratory tests for cure have been unsatisfactory as it has not been practicable to carry out the Complement-Fixation Test. The routine adopted has been:—(a) provocative injection of 500 million gonococci; (b) 24 hours later, massage of the urethra over a full-sized bougie, followed by (c) drinking of 72 ounces of beer; (d) 18 hours later the prostate is massaged and the urine deposit examined after centrifugalisation at 1,500 evolutions per minute for 5 minutes. If there are any gonococci (intra or extracellularly), or if the deposit contains an average of more than 5 pus cells per high-power field, the patient is considered not cure. Only 25 of the patients treated with sulphanilamide have attended for this test for cure, of these 13 have been passed as cured. Some generally accepted standard of cure is an urgent necessity before the results of different observers can be considered comparable.

### Females.

Women patients were similarly assigned treatments without regard to clinical findings or duration of the disease. In each case there was a vaginal discharge in which the gonococcus was demonstrated. Almost all the 132 cases were of cervicitis and endocervicitis; there were 10 cases of salpingitis. Other conditions present were urethritis, marked vaginitis, bartholinitis and endometritis. The duration of the disease ranged from 1 week to 3 years; there were no cases having a history of less than 1 week. Most of the cases gave a duration of 1 to 6 months. The majority of this group are prostitutes—either part or whole-time—and are very difficult to keep under observation.

Of the 132 patients in these 6 groups of treatment, 101 received sulphanilamide alone or combined with local or systemic treatment; 17 had manganese butyrate with local treatment, and 14 mixed gonococcal vaccine with local treatment.

### Table III—Females.

*Methods of Treatment.*

| Group. | No. of Cases. | Systemic Treatment. | Local Treatment. |
|---|---|---|---|
| A | 38 | Sulphanilamide | Douches and Tampons |
| B | 38 | Sulphanilamide + 2 injections of Manganese Butyrate | Douches and Tampons |
| C | 13 | Sulphanilamide | None |
| D | 12 | Sulphanilamide + 2 injections of Manganese Butyrate | None |
| E | 14 | Mixed gonococcal vaccine | Douches and Tampons |
| F | 17 | 4 injections of Manganese Butyrate | Douches and Tampons. |
| G | 21 | Second course of Sulphanilamide | Douches and Tampons |

The results of treatment are shown in Table IV.

### Table IV.—Females.

*Results of Treatment.*

| Group. | No. of Cases. | 5 days. | Discharge ceased within 7 days. | 2 weeks. | 3 weeks. | Total. |
|---|---|---|---|---|---|---|
| A .. | 38 | 3 | 4 | 12 | .. | 19 |
| B .. | 38 | 1 | 2 | 12 | .. | 15 |
| C | 13 | 2 | 1 | 3 | .. | 6 |
| D .. | 12 | 1 | 2 | 6 | .. | 9 |
| E .. | 14 | .. | 1 | .. | .. | 1 |
| F .. | 17 | .. | .. | 3 | .. | 3 |
| G .. | 21 | 6 | 3 | 8 | .. | 17 |

Of the 101 females treated with sulphanilamide 49 were clinically cured within 2 weeks of the commencement of treatment; a further 17 were free of all signs or symptoms after a second course of sulphanilamide—a total of 66 out of 101 in 4 weeks of treatment with this compound. Here, as in the series of male patients, it appears to make little difference whether the sulphanilamide is used as the only treatment or with local or other systemic methods. The improvement, in cases responding to the drug, has been remarkable and rapid—salpingitis most rapidly, cervicitis and endocervicitis clearing within a fortnight. There were 10 relapses reported among the women treated with sulphanilamide, whilst they were still undergoing treatment. Treatment with manganese butyrate, or gonococcal vaccine, combined with local treatment gives poor results when compared to sulphanilamide threrapy.

In females, even more than in males, the criterion of Test for Cure remains most unsatisfactory in the absence of the Complement -Fixation Test. Each patient has been observed carefully for at least 6 weeks after cessation of all treatment—swabs being taken from the cervical canal at weekly or fort-nightly intervals. Of the 48 women examined in this way 46 were still free of all signs of the disease at the end of this 6 week period of observation. It should be clearly stated, however, that no claim is made for a "cure" in these cases.

## Discussion.

A series of 163 males and 132 females have been treated for Gonorrhœa. Of these 113 males and 101 females have received Sulphanilamide; 32 males and 17 females have received manganese butyrate and local treatment; 18 males and 14 females have received mixed gonococcal vaccine as well as local treatment.

Of the 113 males, 68 or 60 were clinically cured in a fortnight, and a further 11 after a second course of sulphanilamide, a total of 70% in 4 weeks. Of the 101 females, 49 were free of signs or symptoms in a fortnight, and a total of 66% in 4 weeks from the commencement of treatment.

Sulphanilamide has been used alone, combined with injections of manganese butyrate, and combined with local treatment. In both males and females the compound seems to work as well alone as when used along with other treatments.

The reactions noted have been those previously recorded by other observers—chiefly gastric disturbances, headache and erythematous eruptions. Most of the reactions have been comparatively mild, with few exceptions necessitating cessation of treatment. These reactions have only been recorded with a dosage of 4.5 grammes or more per day.

The results in this series are not as good as those reported by Dees and Colston or by Crean—70% in males, and 66% in females clinically cured compared with nearly 80% by the former and 90% by the latter observer.

## Conclusions.

1. An attempt has been made to standardize the dosage of Sulphanilamide in the treatment of Gonorrhœa.
2. The use of Sulphanilamide, with this routine dosage, has shown the compound to be definitely superior to manganese butyrate or vaccine.
3. The dosage used is not enough to prevent several relapses, but a larger dosage is too toxic for routine use.
4. The complicated case of gonorrhœa responds as rapidly as the less advanced case to therapy with sulphanilamide.
5. Sulphanilamide appears to give the same results when used alone as when used in combination with other systemic or local treatment.
6. Much remains to be done before this drug can be used as routine treatment for all cases of gonorrhœa.
7. A generally accepted standard of cure of gonorrhœa is a necessity in order that the results of various observers may be comparable.

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